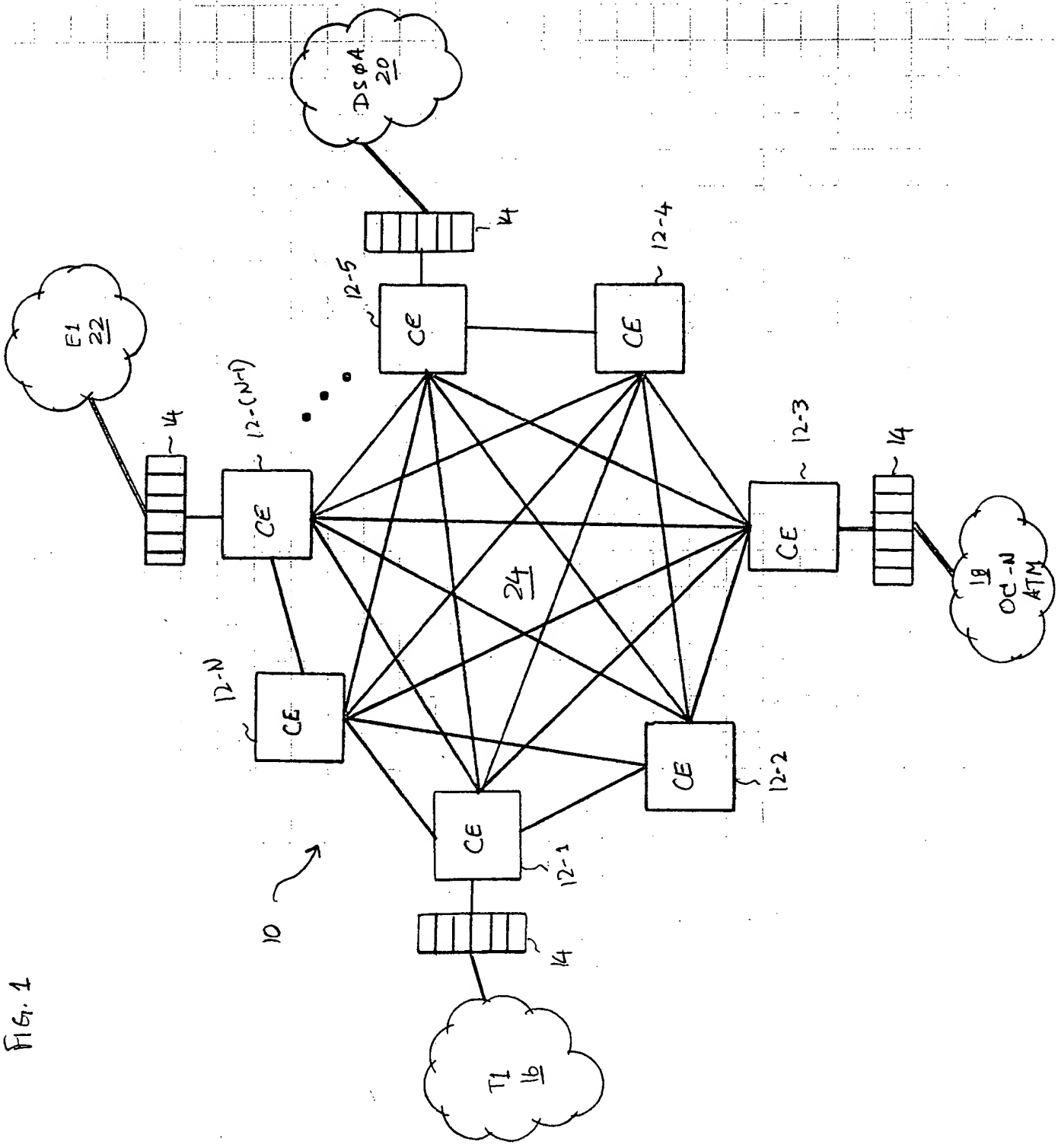

DS0A
20
4
12-5
CE
12-4
CE
E1
22
4
12-(N-1)
CE
12-3
CE
14
24
18
OC-N
ATM
12-N
CE
CE
12-2
CE
12-1
10
14
T1
16

Fig. 1

FIG. 2

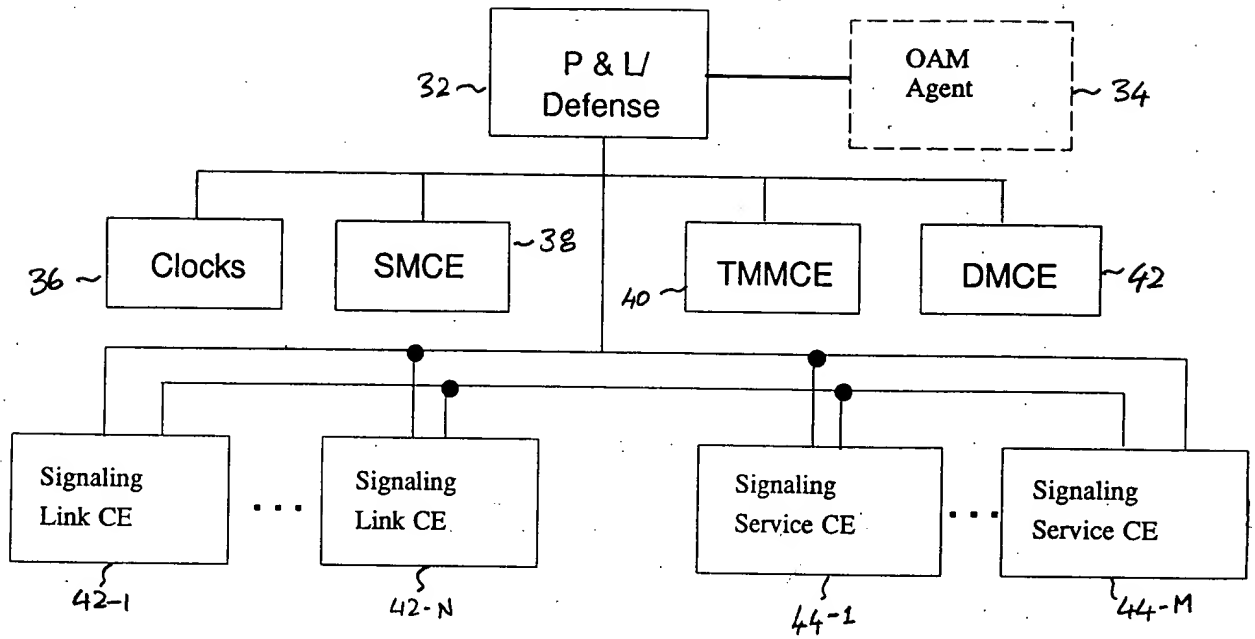
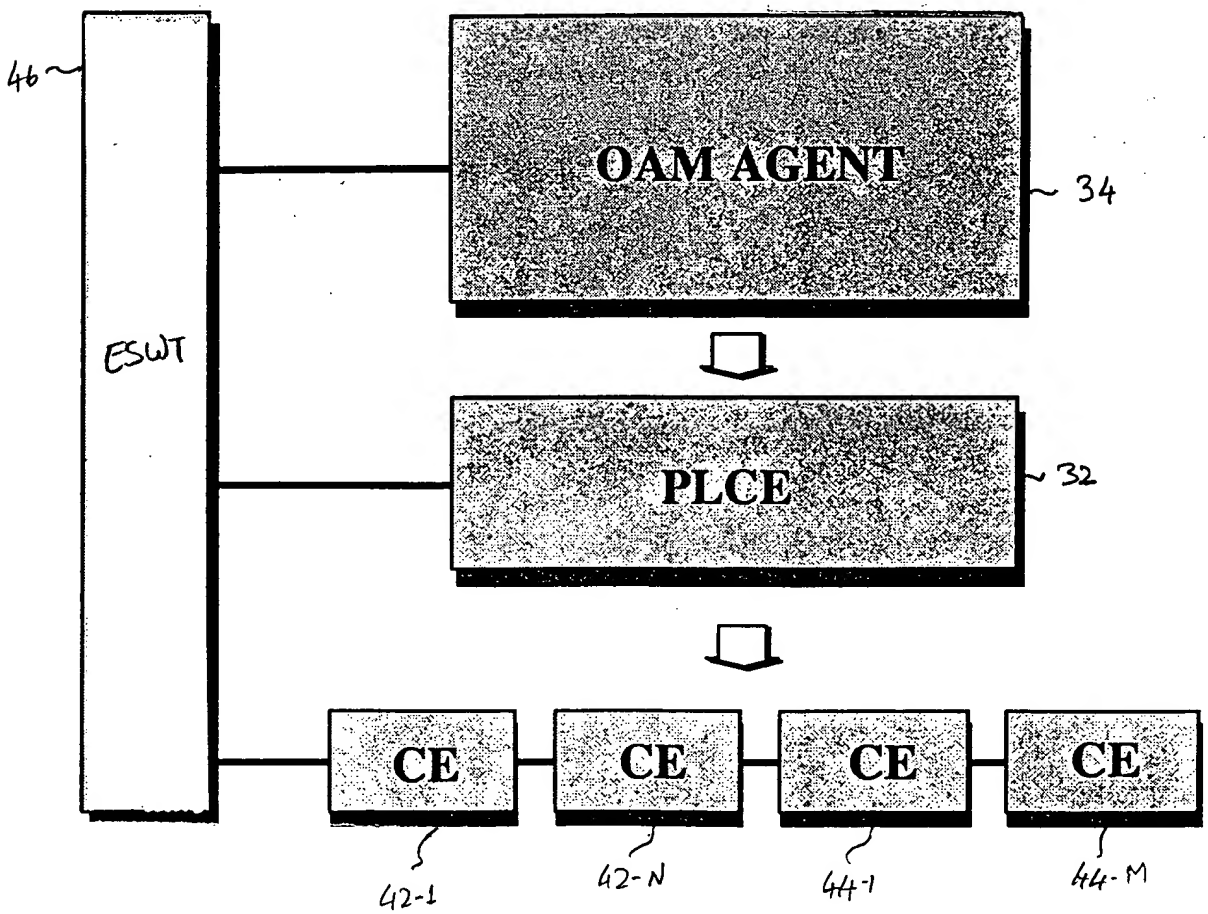

32
P & L/ Defense
OAM Agent
34
36
Clocks
SMCE
38
40
TMMCE
DMCE
42
Signaling Link CE
Signaling Link CE
Signaling Service CE
Signaling Service CE
42-1
42-N
44-1
44-M

FIG. 3


46
ESWT
OAM AGENT
34
PLCE
32
CE
CE
CE
CE
42-1
42-N
44-1
44-M

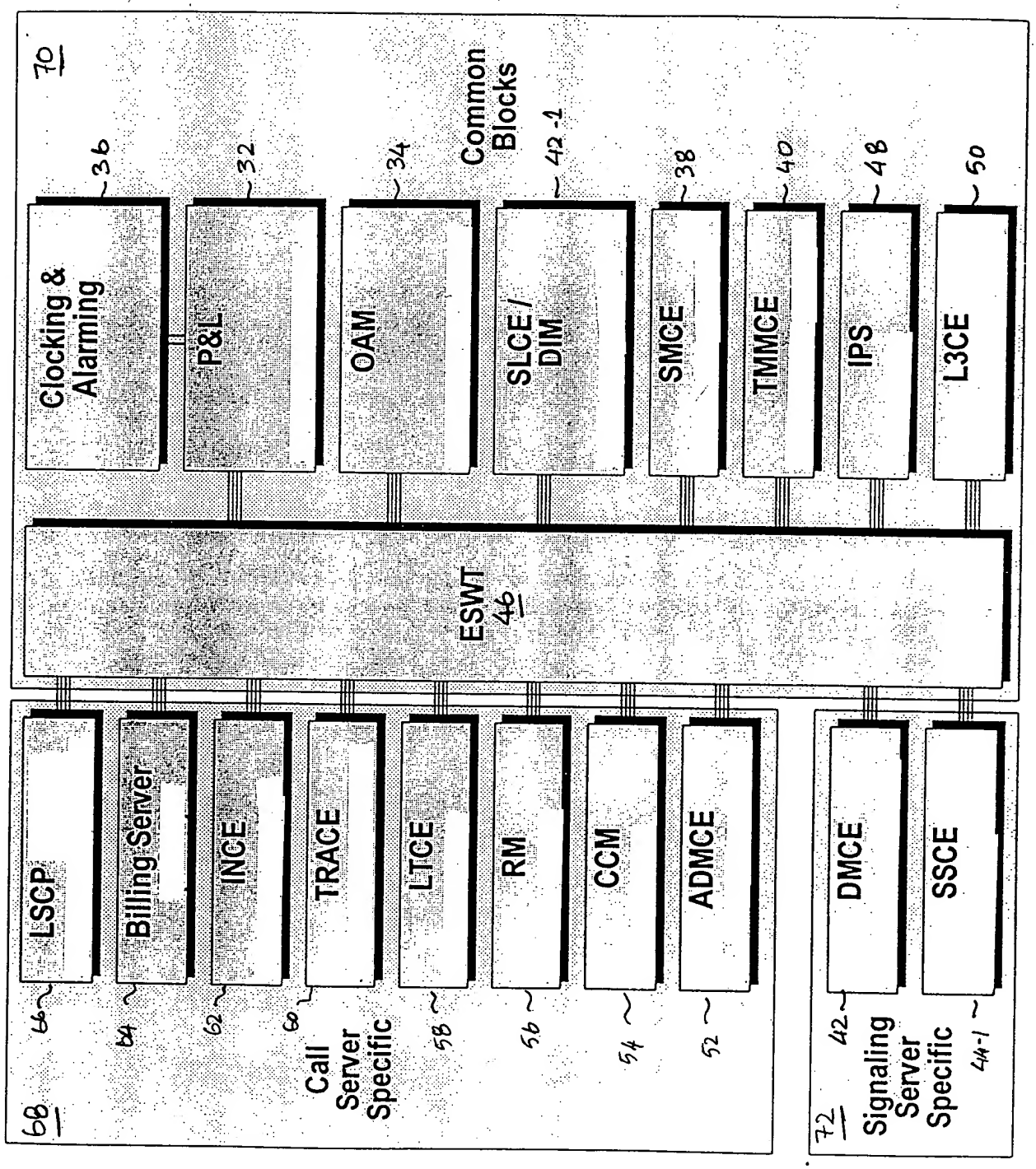
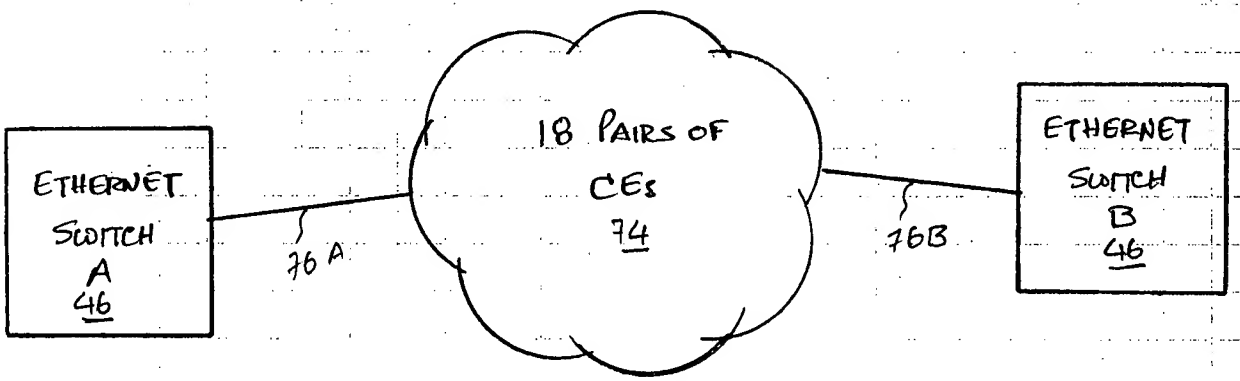



FIG. 4

UNITED STATES

0076E0 80E0A5E0

FIG. 5A



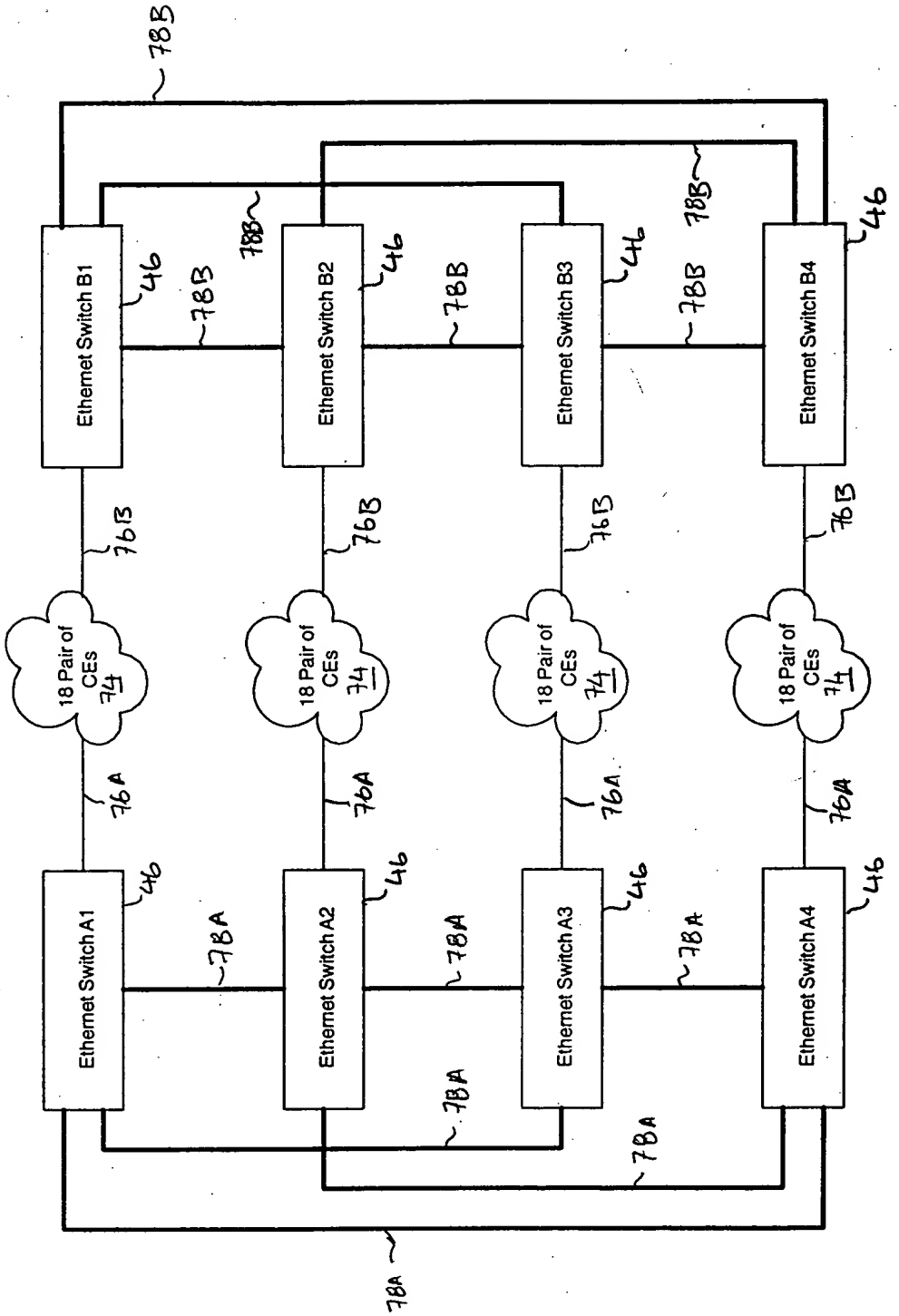
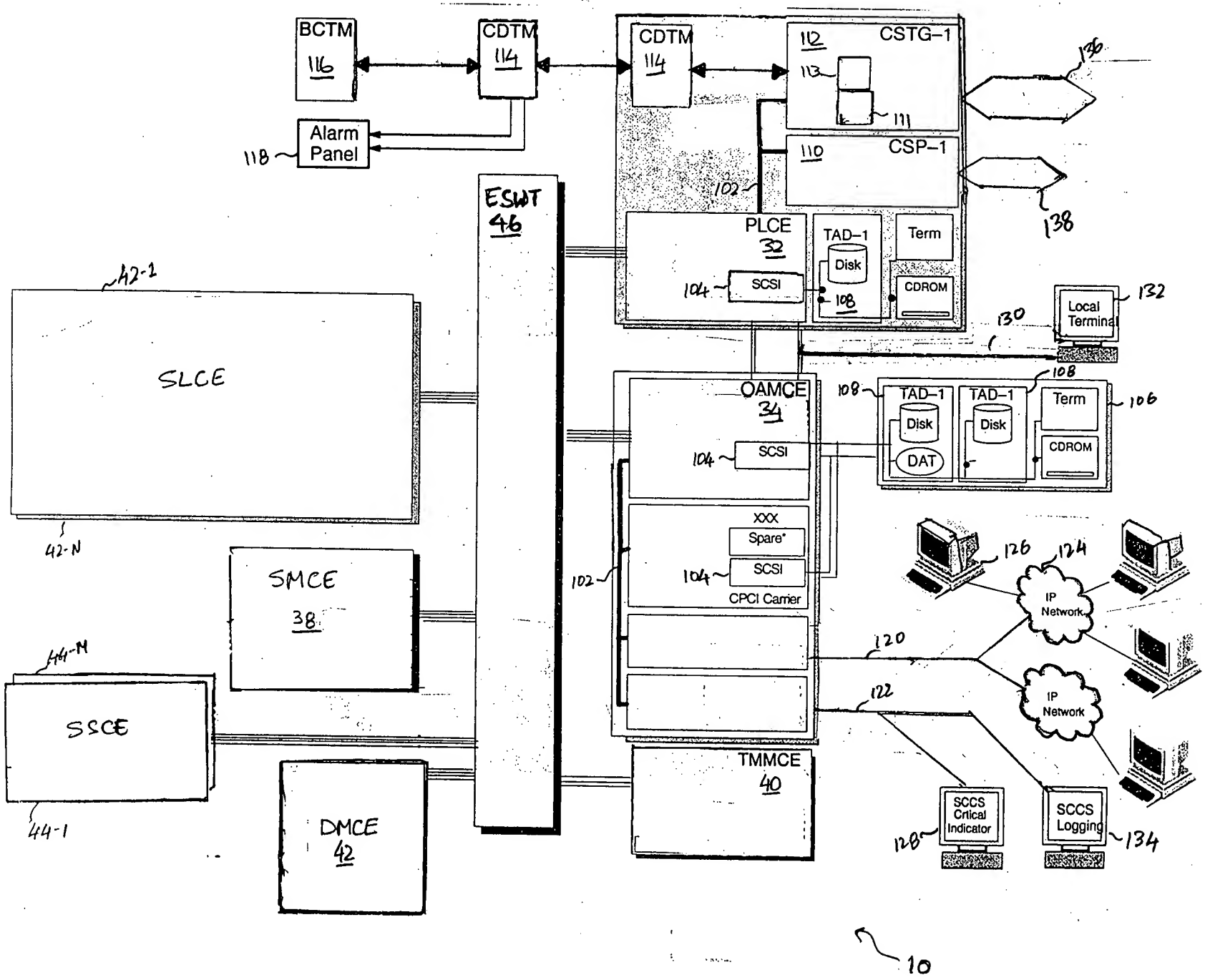

78B
Ethernet Switch B1
Ethernet Switch B2
Ethernet Switch B3
Ethernet Switch B4
46
78B
76B
18 Pair of CEs 74
76A
Ethernet Switch A1
Ethernet Switch A2
Ethernet Switch A3
Ethernet Switch A4
78A

FIG. 5B

FIG. 6




1285-0007

6

FIG. 7

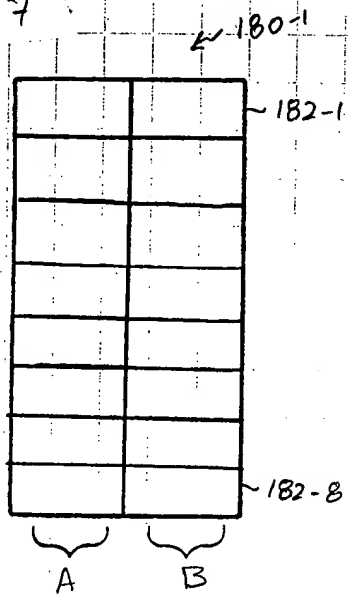



FIG. 8

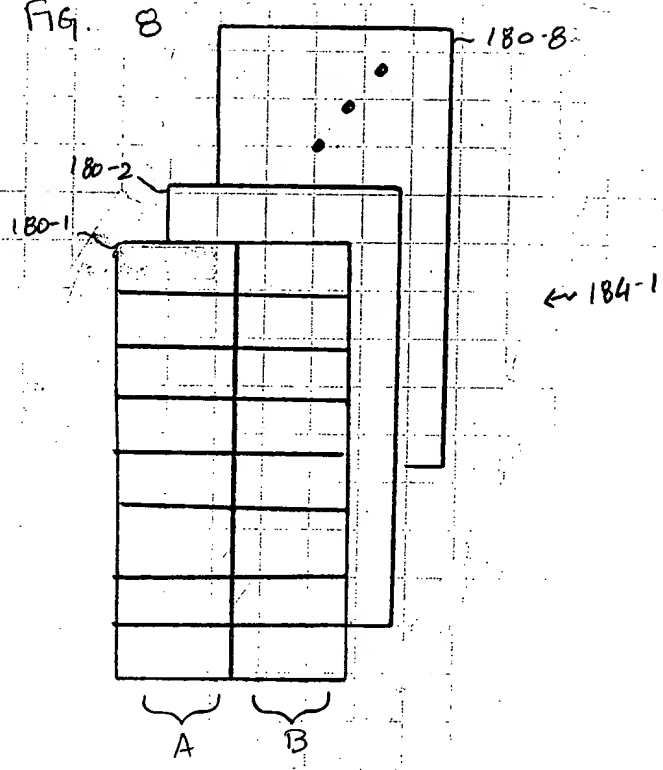
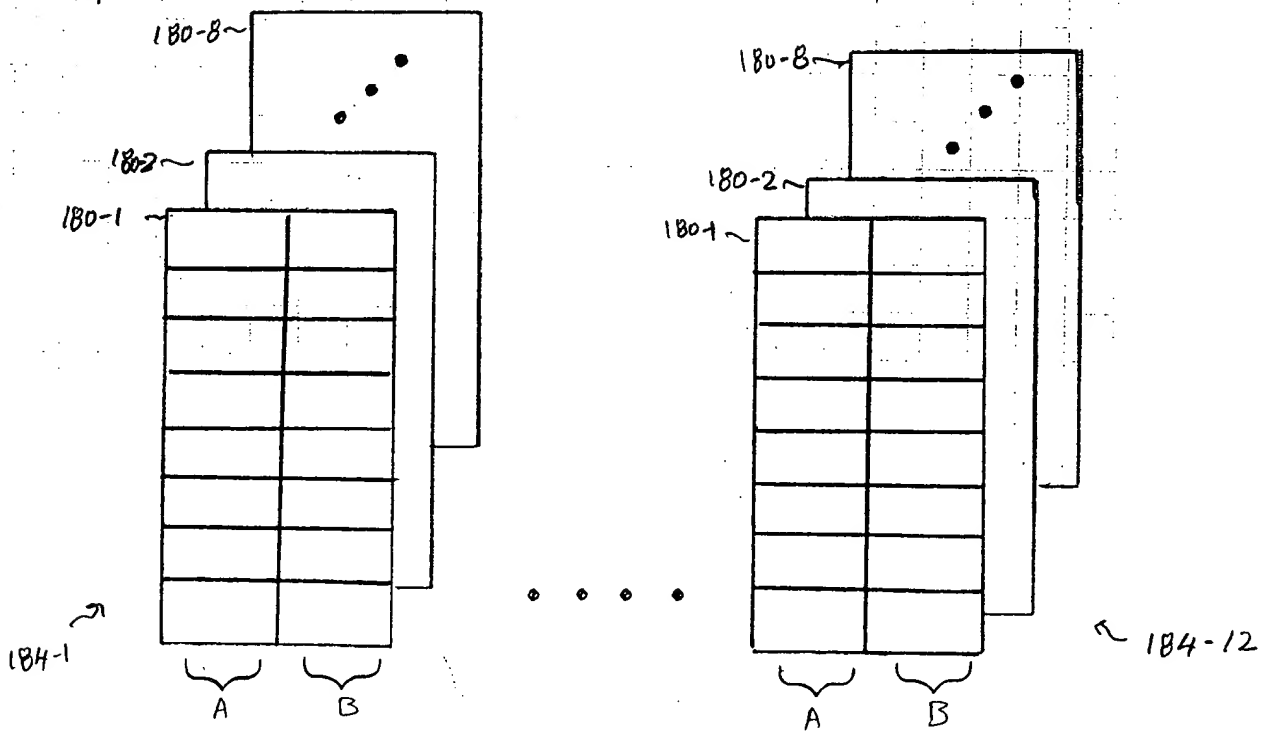



FIG. 9



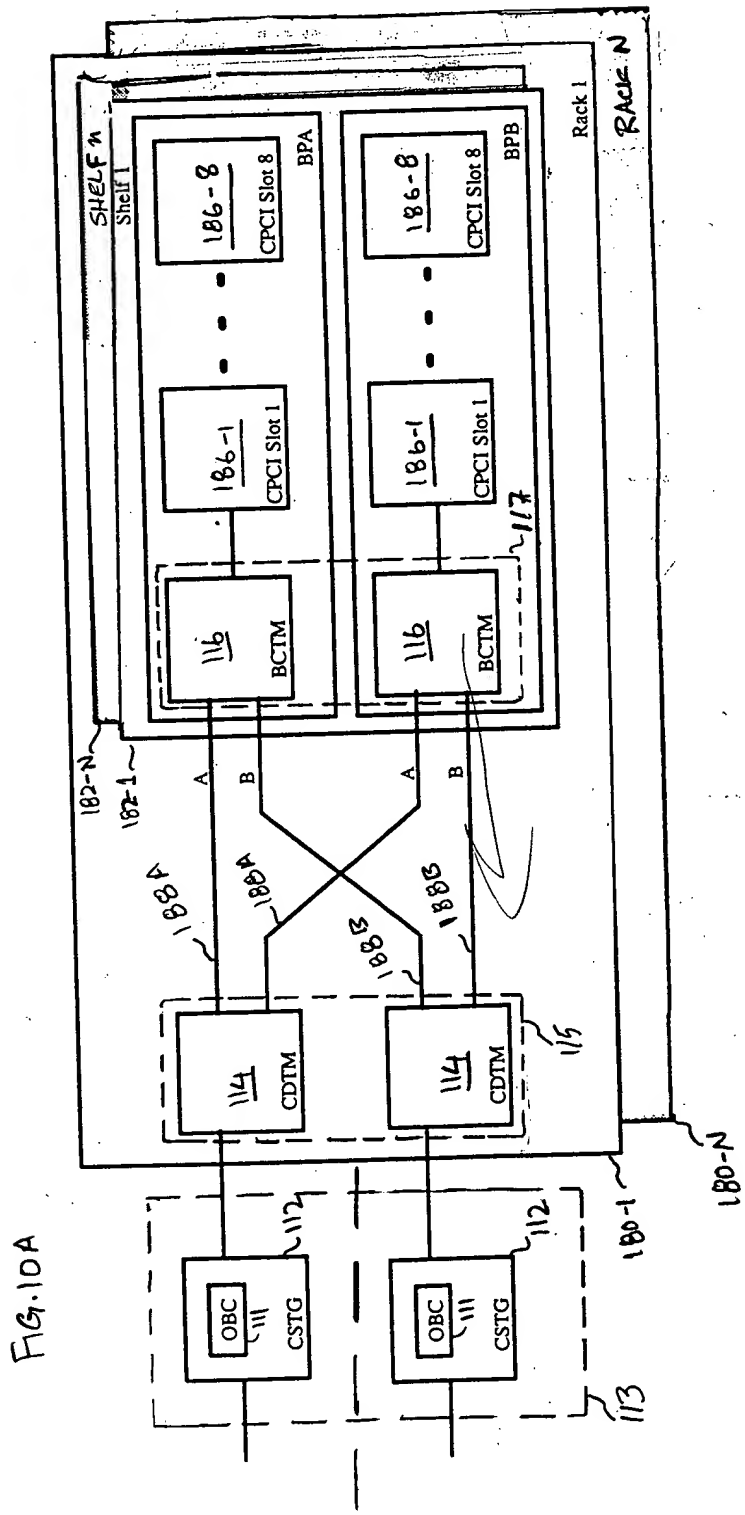
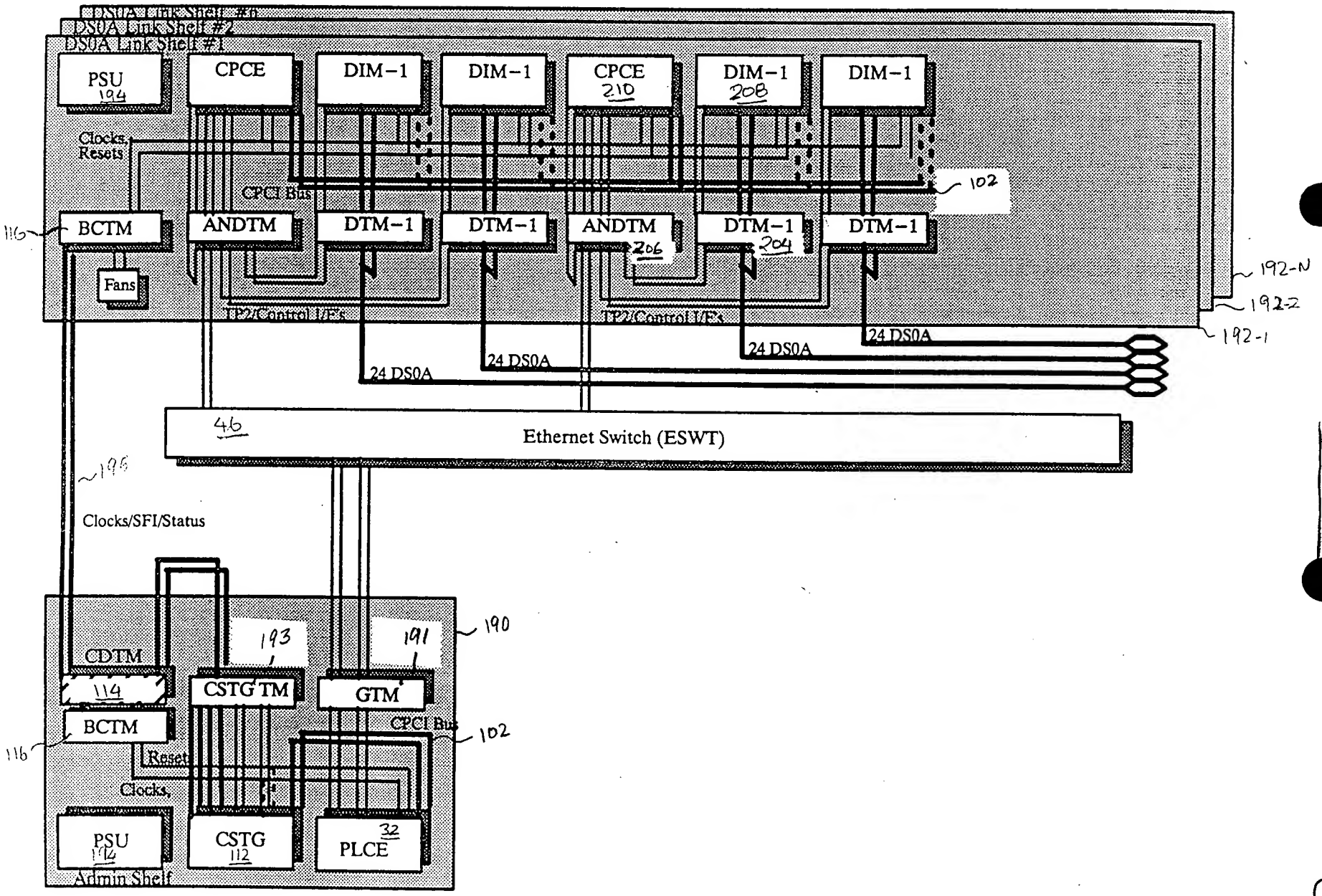

RACK N
Rack 1
SHELF n
Shelf 1
BPA
BPB
186-8
CPCI Slot 8
186-1
CPCI Slot 1
116
BCTM
117
182-N
182-1
A
B
188A
188B
114
CDTM
115
180-N
180-1
112
OBC
111
CSTG
113

FIG. 10A

DOTECO 80C0NS60

FIG. 1B




1285-0002

9

FIG. 10C

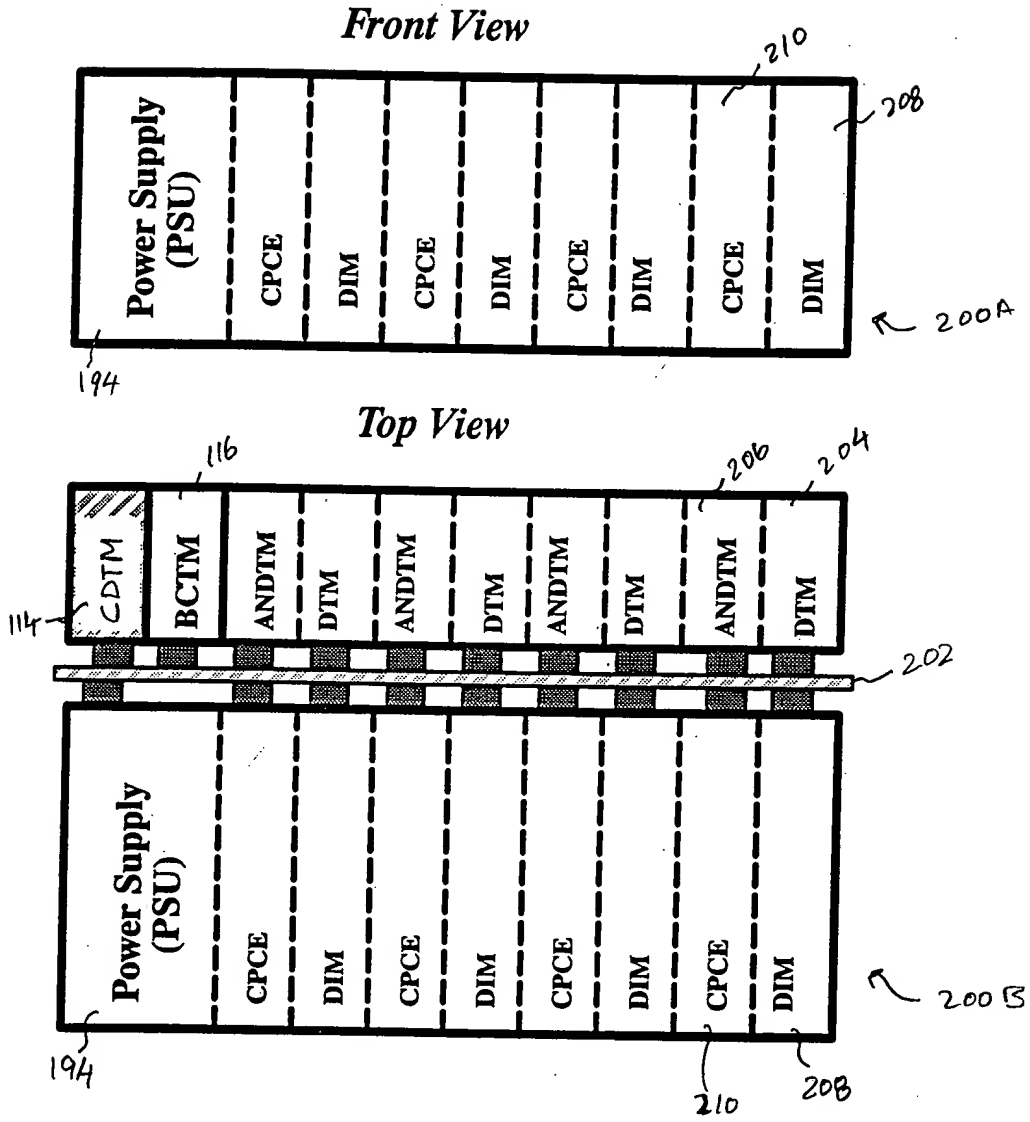
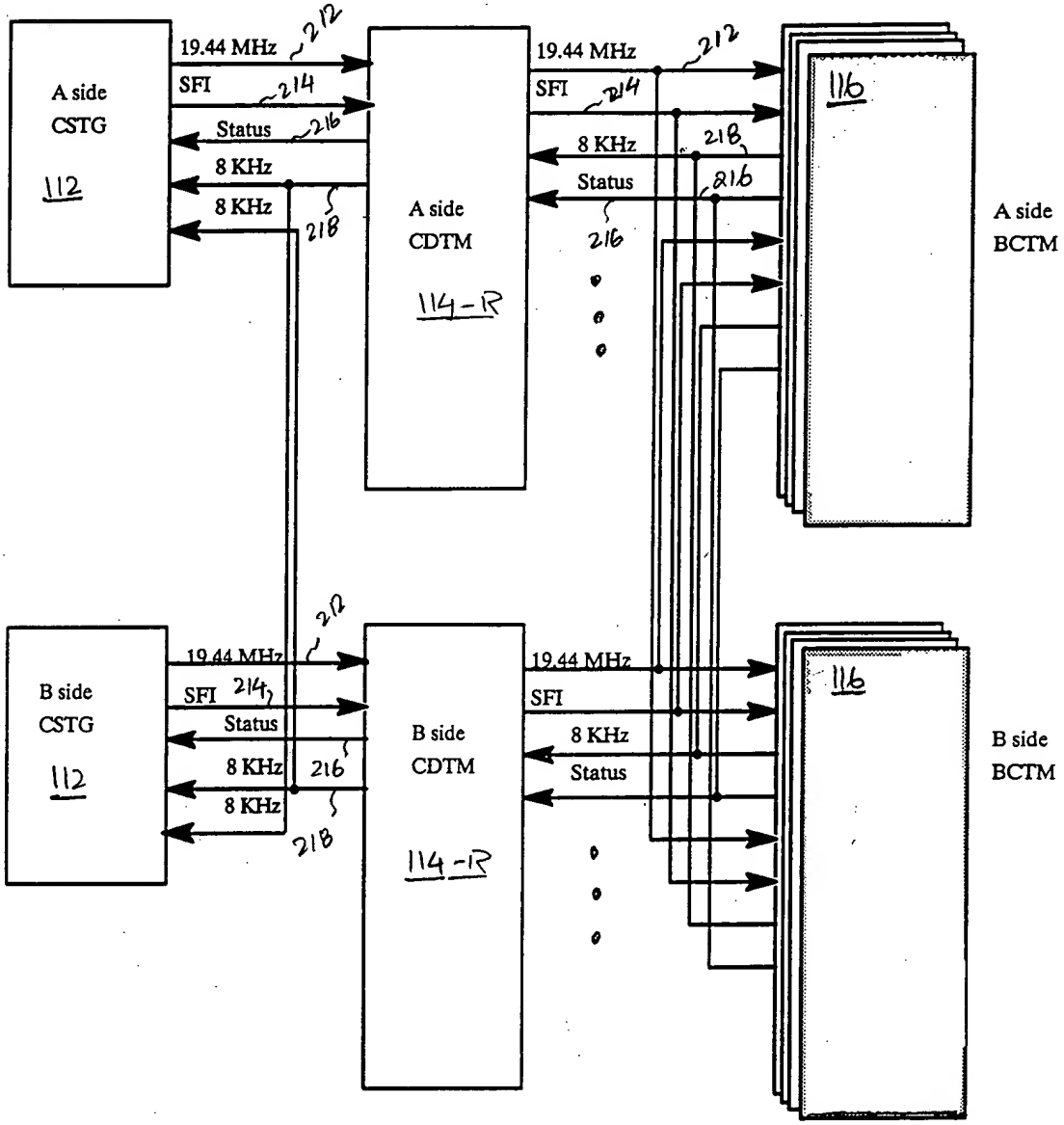

Front View
Power Supply (PSU)
CPCE
DIM
CPCE
DIM
CPCE
DIM
CPCE
DIM
210
208
200A
194
Top View
116
206
204
CDTM
BCTM
ANDTM
DTM
ANDTM
DTM
ANDTM
DTM
ANDTM
DTM
114
202
Power Supply (PSU)
CPCE
DIM
CPCE
DIM
CPCE
DIM
CPCE
DIM
200B
194
210
208

FIG. 11A


A side
CSTG
112
19.44 MHz
212
SFI
214
Status
216
8 KHz
8 KHz
218
A side
CDTM
114-R
19.44 MHz
212
SFI
214
8 KHz
218
Status
216
216
116
A side
BCTM
B side
CSTG
112
19.44 MHz
212
SFI
214
Status
8 KHz
216
8 KHz
218
B side
CDTM
114-R
19.44 MHz
SFI
8 KHz
Status
116
B side
BCTM

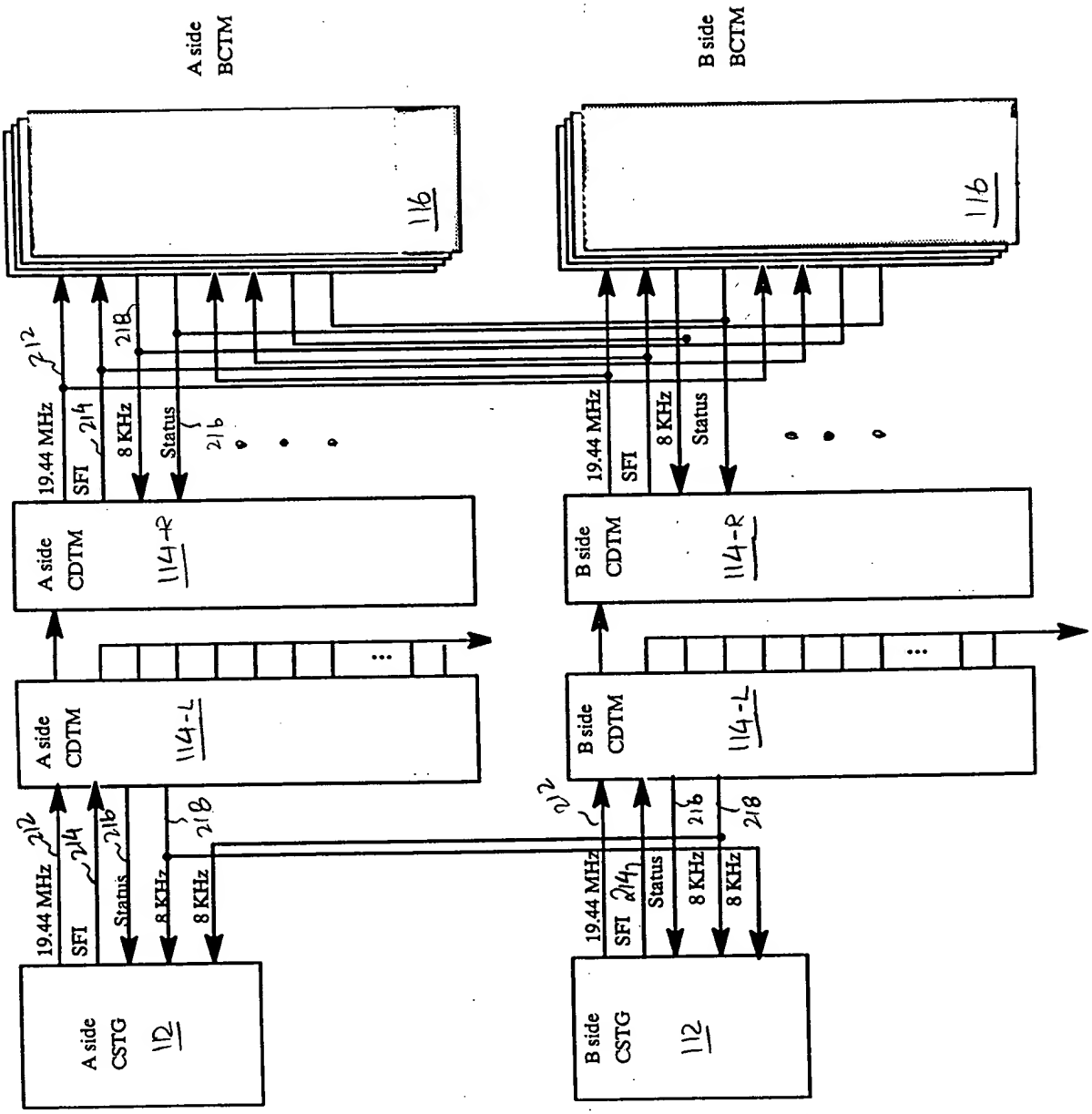



FIG. 11B

D0TE20 "6065D75D

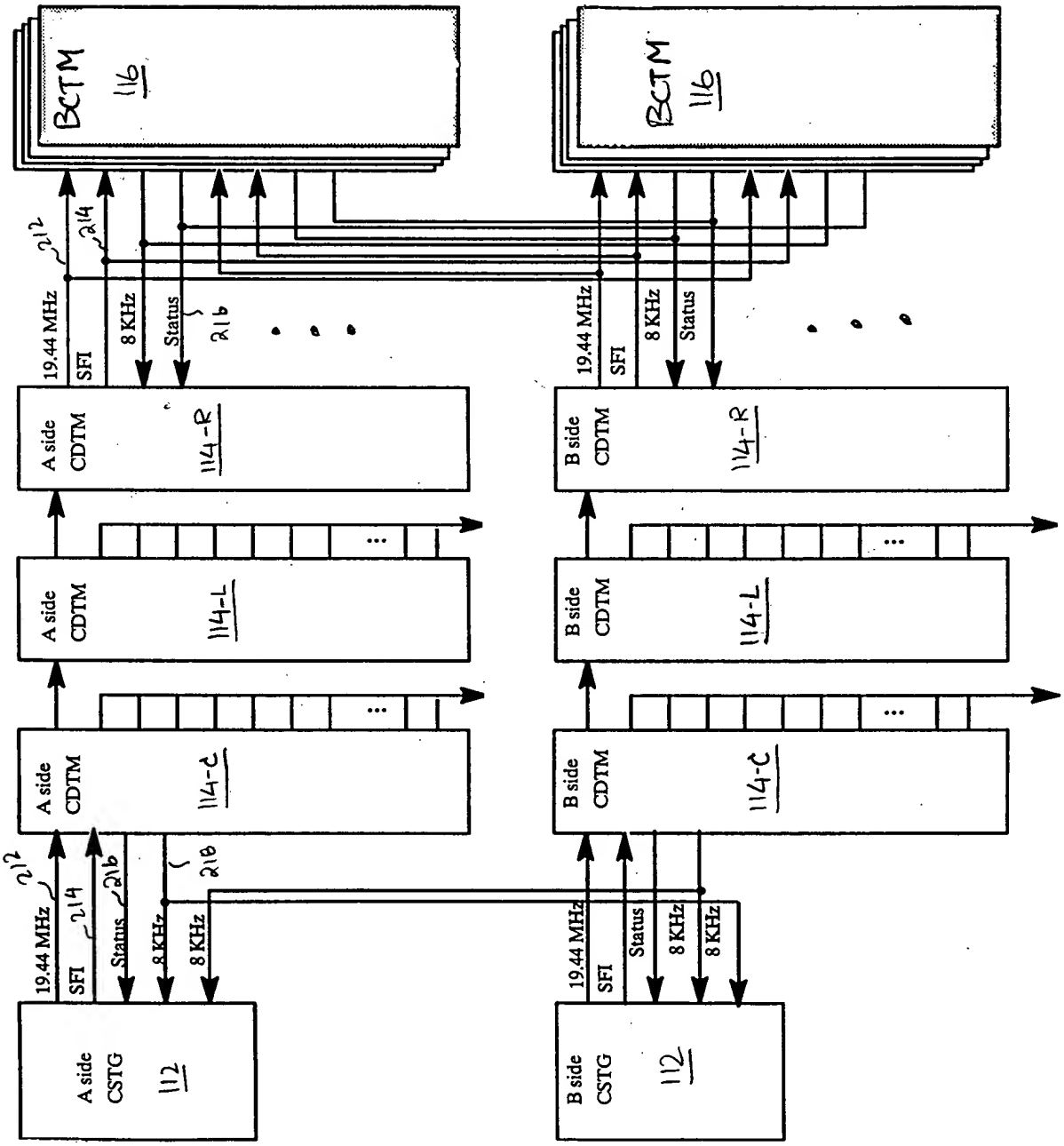

BCTM
116
BCTM
116
212
214
216
218
19.44 MHz
SFI
8 KHz
Status
A side CDTM
114-R
A side CDTM
114-L
A side CDTM
114-C
B side CDTM
114-R
B side CDTM
114-L
B side CDTM
114-C
A side CSTG
112
B side CSTG
112

FIG. 11C

FIG. 12A

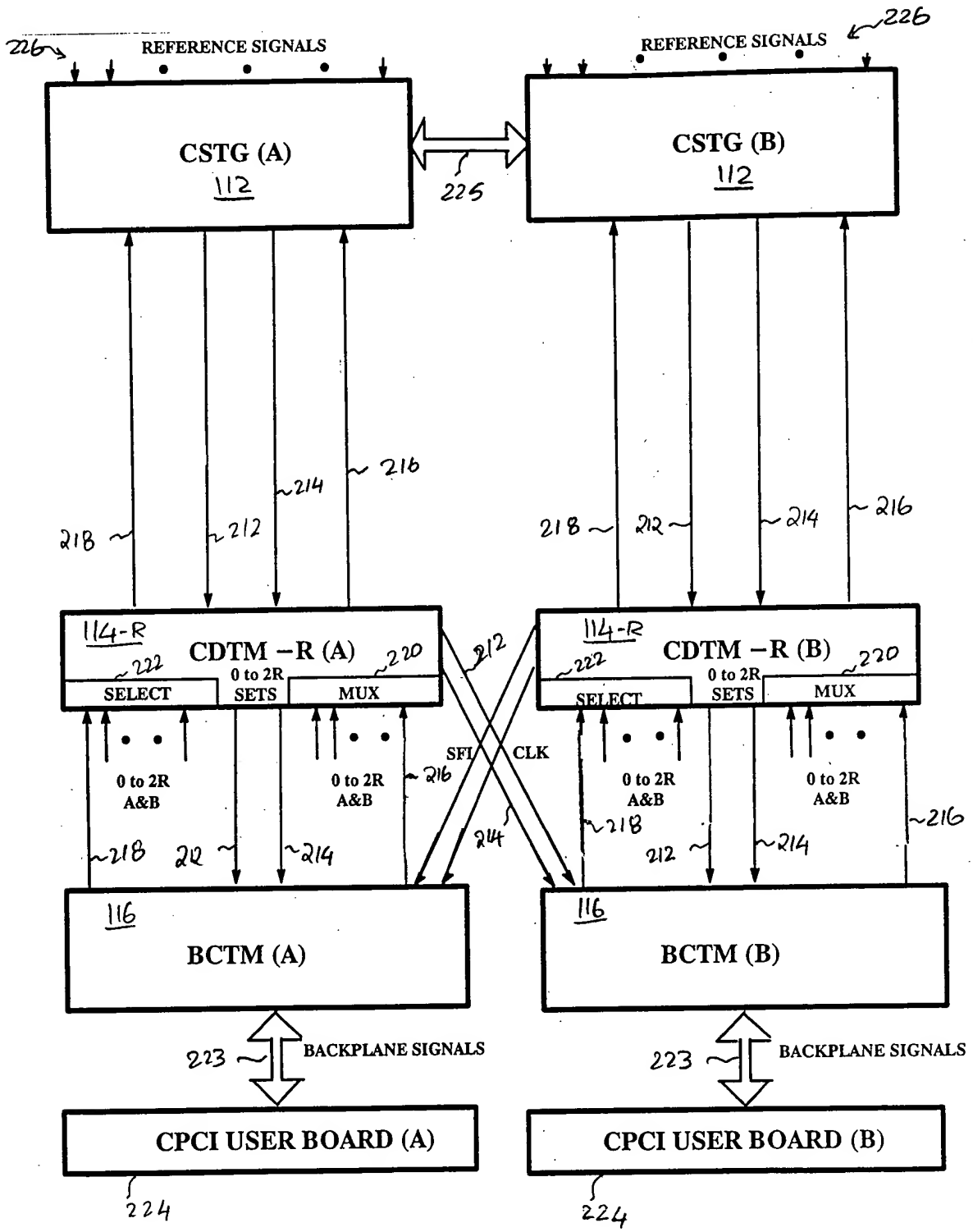

226
REFERENCE SIGNALS
REFERENCE SIGNALS
226
CSTG (A)
112
225
CSTG (B)
112
218
212
214
216
218
212
214
216
114-R
CDTM –R (A)
222
220
0 to 2R SETS
SELECT
MUX
212
114-R
CDTM –R (B)
222
220
0 to 2R SETS
SELECT
MUX
0 to 2R A&B
0 to 2R A&B
216
SFI
CLK
214
0 to 2R A&B
0 to 2R A&B
218
212
214
216
218
212
214
116
BCTM (A)
116
BCTM (B)
223
BACKPLANE SIGNALS
223
BACKPLANE SIGNALS
CPCI USER BOARD (A)
CPCI USER BOARD (B)
224
224

FIG. 12B

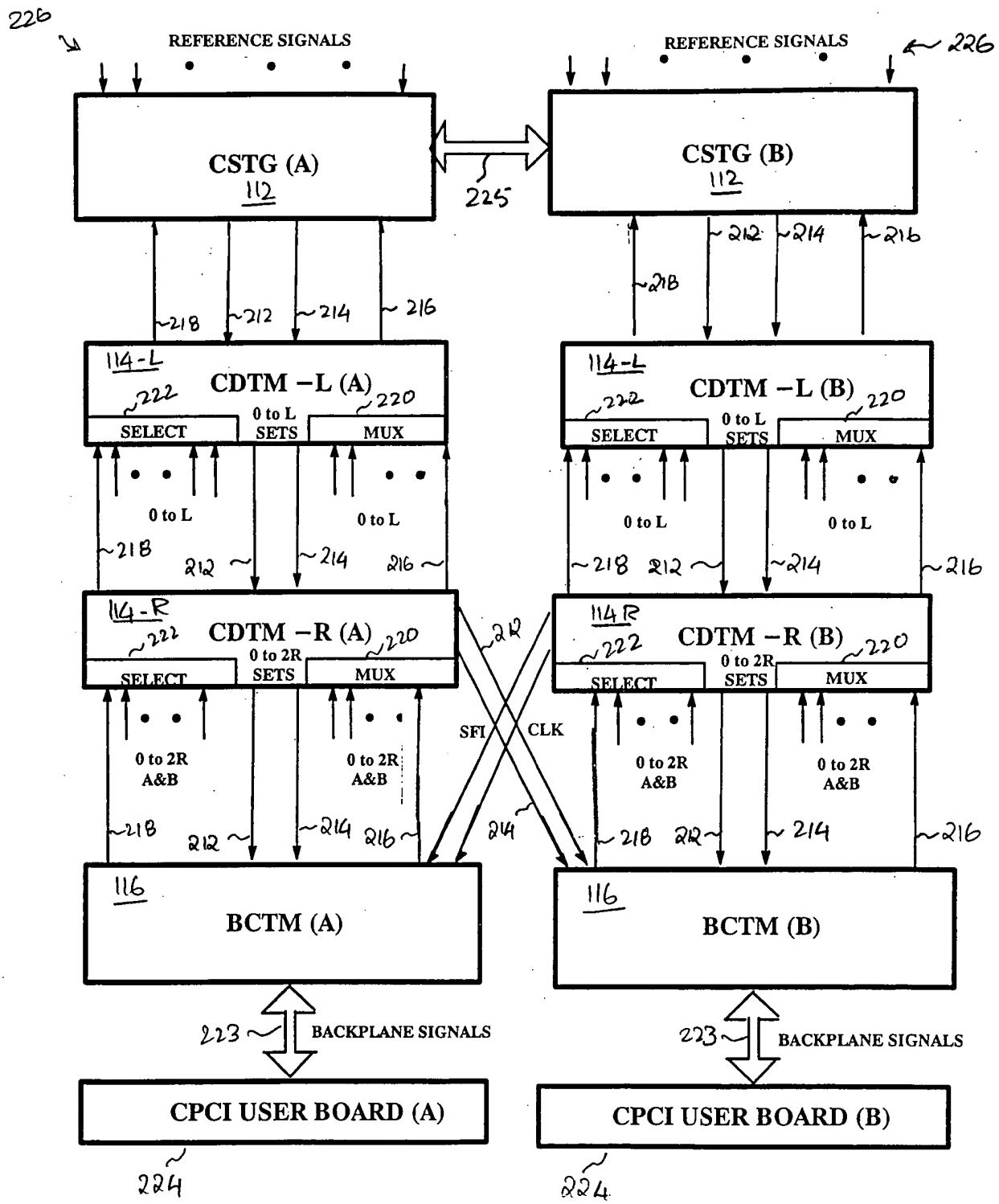

226
REFERENCE SIGNALS
REFERENCE SIGNALS
226
CSTG (A)
112
225
CSTG (B)
112
218
212
214
216
114-L
CDTM –L (A)
222
220
SELECT
0 to L SETS
MUX
0 to L
0 to L
114-L
CDTM –L (B)
222
220
SELECT
0 to L SETS
MUX
0 to L
0 to L
114-R
CDTM –R (A)
222
220
SELECT
0 to 2R SETS
MUX
0 to 2R A&B
0 to 2R A&B
114R
CDTM –R (B)
222
220
SELECT
0 to 2R SETS
MUX
0 to 2R A&B
0 to 2R A&B
SFI
CLK
116
BCTM (A)
116
BCTM (B)
223
BACKPLANE SIGNALS
223
BACKPLANE SIGNALS
CPCI USER BOARD (A)
224
CPCI USER BOARD (B)
224

FIG. 12C

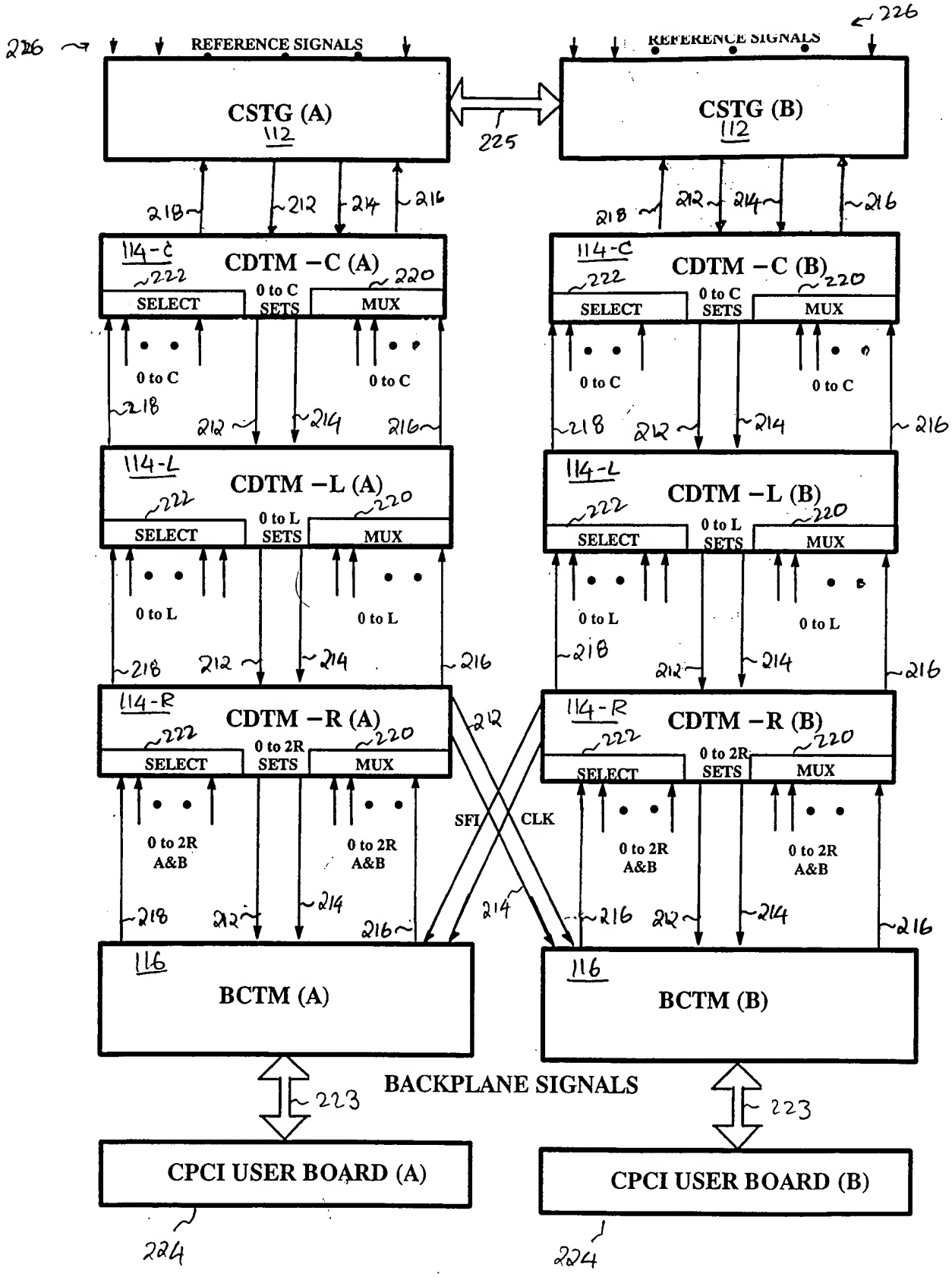
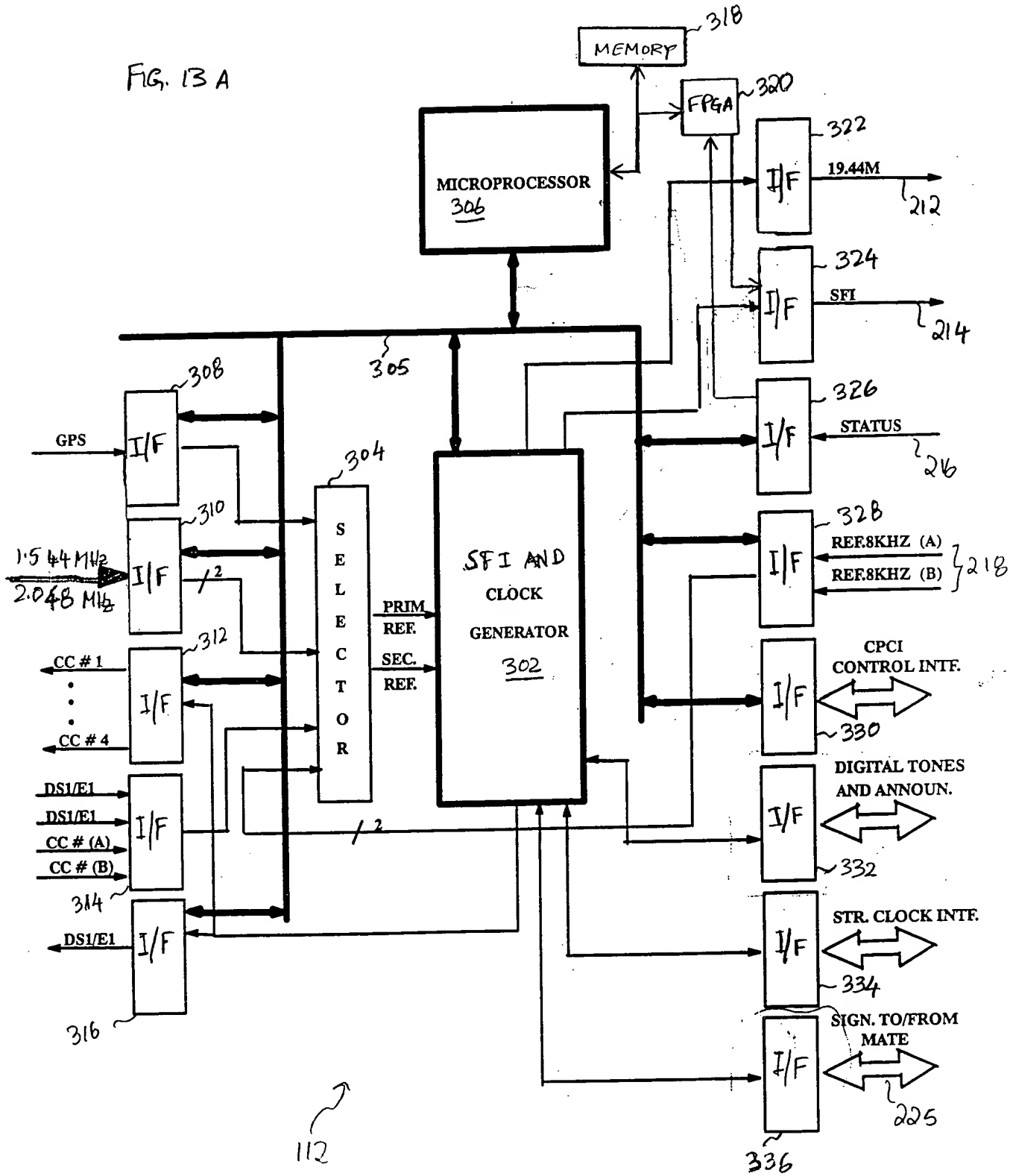

226
REFERENCE SIGNALS
CSTG (A)
112
225
CSTG (B)
112
218
212
214
216
114-C
CDTM –C (A)
222
SELECT
0 to C SETS
220
MUX
0 to C
CDTM –C (B)
114-L
CDTM –L (A)
0 to L SETS
CDTM –L (B)
114-R
CDTM –R (A)
0 to 2R SETS
CDTM –R (B)
0 to 2R A&B
SFI
CLK
116
BCTM (A)
BCTM (B)
BACKPLANE SIGNALS
223
CPCI USER BOARD (A)
CPCI USER BOARD (B)
224

FIG. 13A


MEMORY
318
FPGA
320
MICROPROCESSOR
306
322
I/F
19.44M
212
324
SFI
214
305
308
GPS
326
STATUS
26
304
310
1.544 MHz
2.048 MHz
328
REF.8KHZ (A)
REF.8KHZ (B)
218
SELECTOR
SFI AND CLOCK GENERATOR
302
PRIM. REF.
SEC. REF.
312
CC # 1
CC # 4
CPCI CONTROL INTF.
330
DS1/E1
DS1/E1
CC # (A)
CC # (B)
314
DIGITAL TONES AND ANNOUN.
332
DS1/E1
316
STR. CLOCK INTF.
334
SIGN. TO/FROM MATE
225
336
112

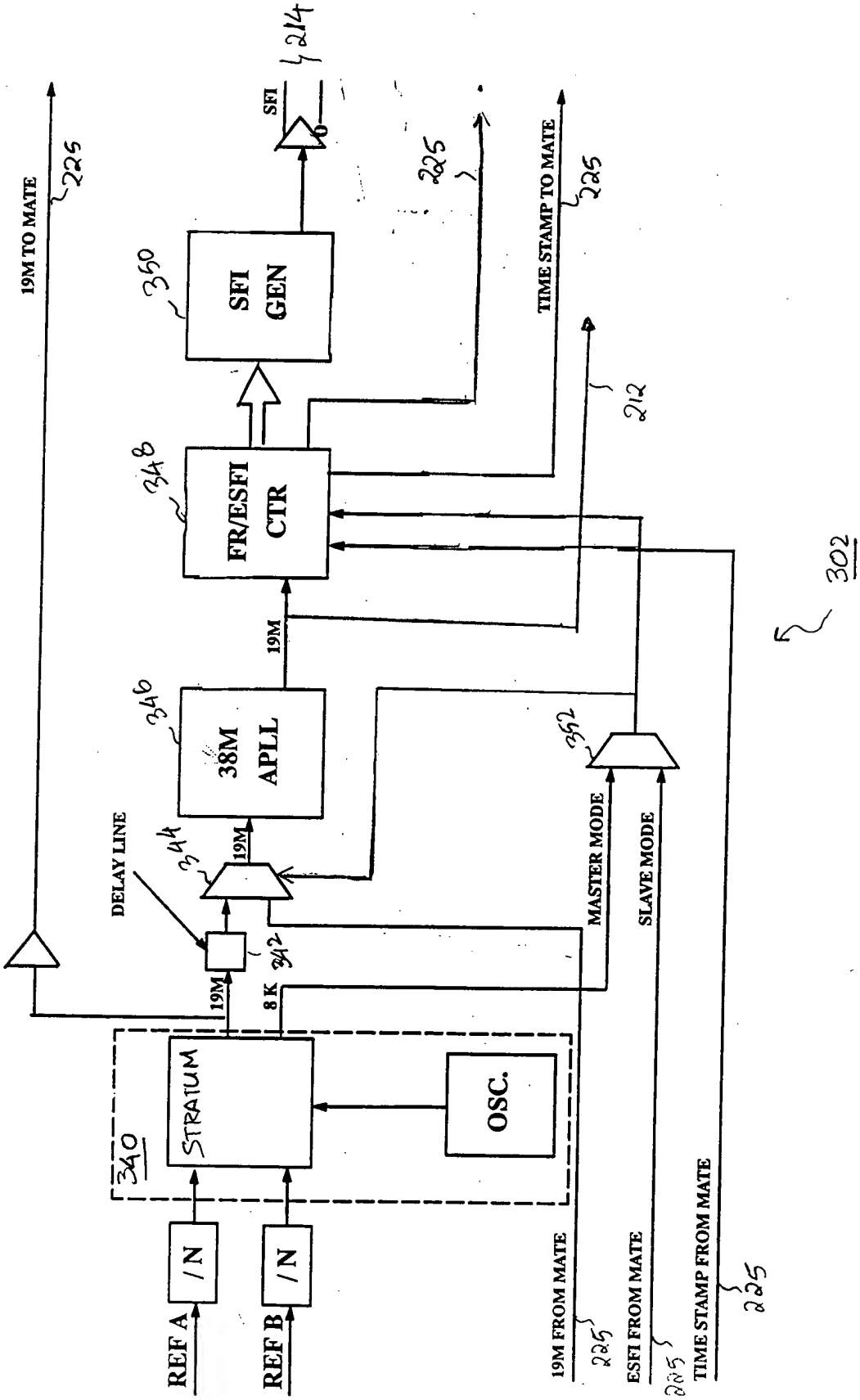

REF A
REF B
/ N
/ N
340
STRATUM
OSC.
8 K
19M
342
DELAY LINE
344
19M
38M APLL
346
19M
FR/ESFI CTR
348
SFI GEN
350
SFI
214
19M TO MATE
225
225
TIME STAMP TO MATE
225
212
352
MASTER MODE
SLAVE MODE
19M FROM MATE
225
ESFI FROM MATE
225
TIME STAMP FROM MATE
225
302

FIG. 13B

FIG. 14

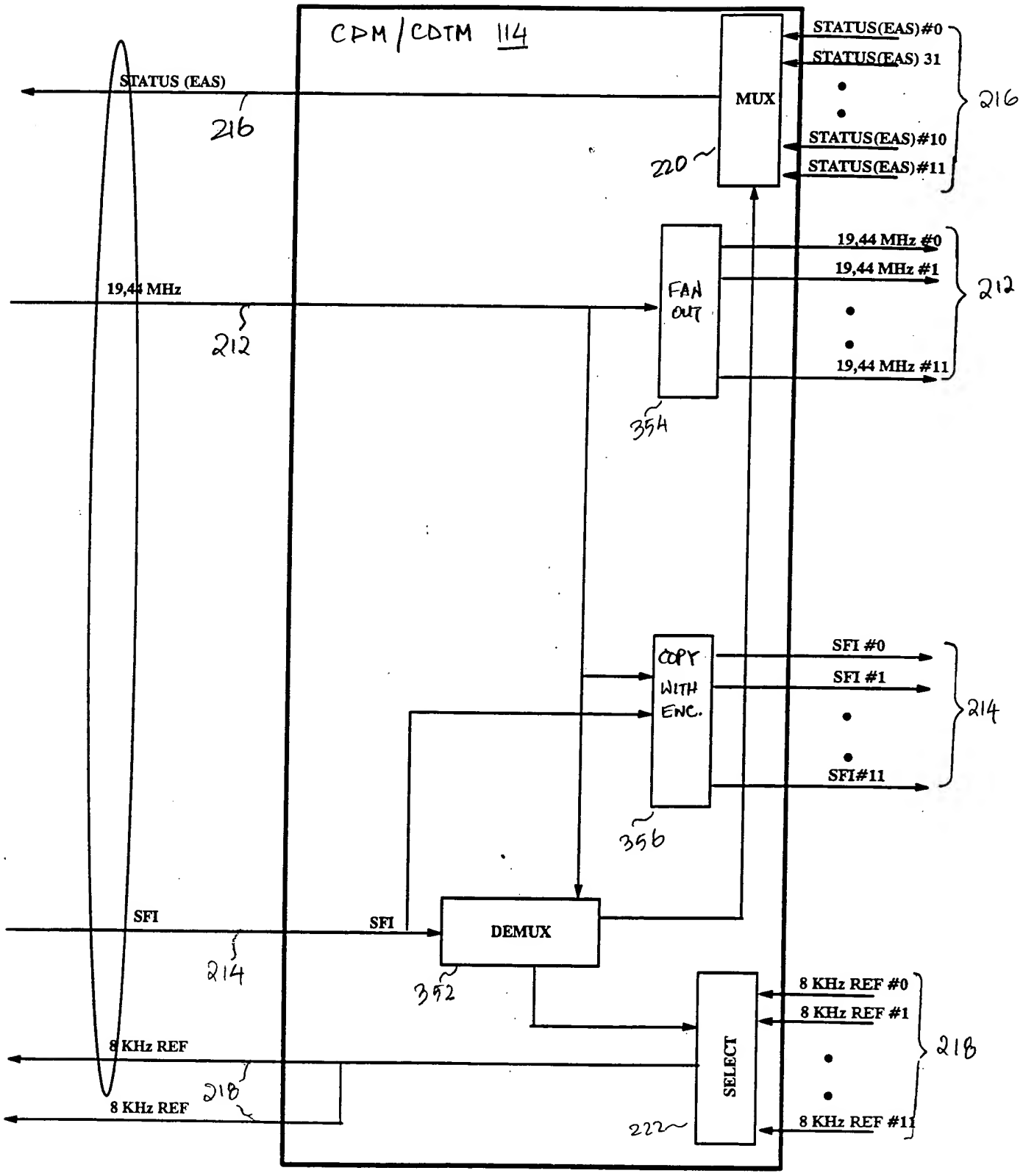

CDM/CDTM 114
STATUS (EAS)
216
MUX
220
STATUS(EAS)#0
STATUS(EAS) 31
STATUS(EAS)#10
STATUS(EAS)#11
216
19,44 MHz
212
FAN OUT
354
19,44 MHz #0
19,44 MHz #1
19,44 MHz #11
212
COPY WITH ENC.
356
SFI #0
SFI #1
SFI#11
214
SFI
214
SFI
DEMUX
392
8 KHz REF
218
8 KHz REF
SELECT
222
8 KHz REF #0
8 KHz REF #1
8 KHz REF #11
218

FIG. 15

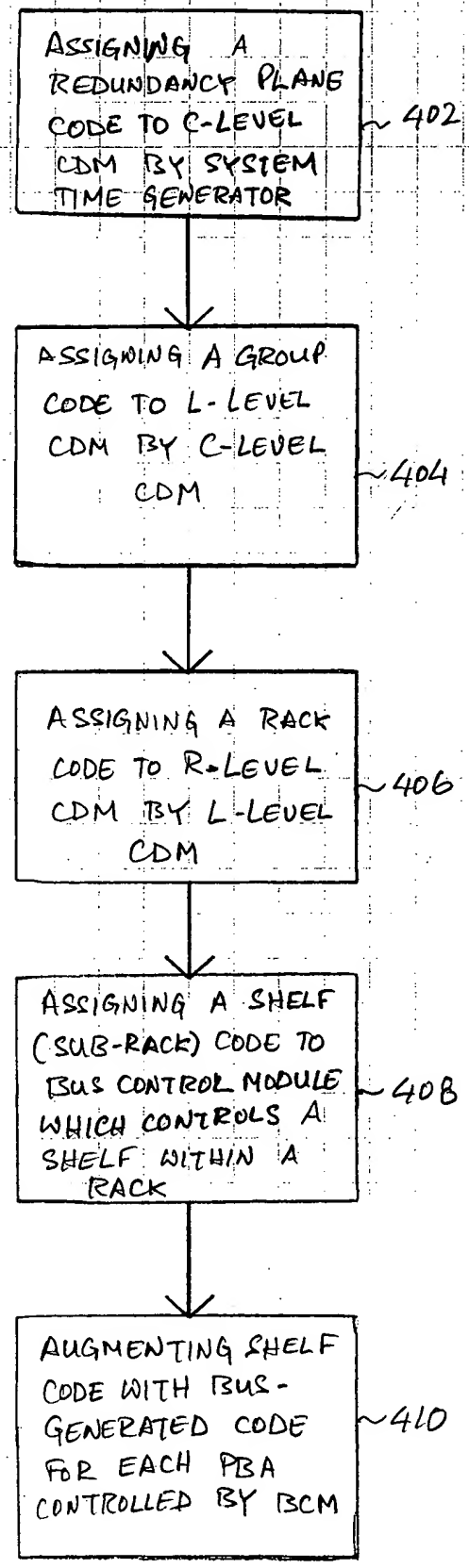

ASSIGNING A REDUNDANCY PLANE CODE TO C-LEVEL CDM BY SYSTEM TIME GENERATOR
402
ASSIGNING A GROUP CODE TO L-LEVEL CDM BY C-LEVEL CDM
404
ASSIGNING A RACK CODE TO R-LEVEL CDM BY L-LEVEL CDM
406
ASSIGNING A SHELF (SUB-RACK) CODE TO BUS CONTROL MODULE WHICH CONTROLS A SHELF WITHIN A RACK
408
AUGMENTING SHELF CODE WITH BUS-GENERATED CODE FOR EACH PBA CONTROLLED BY BCM
410

FIG. 16

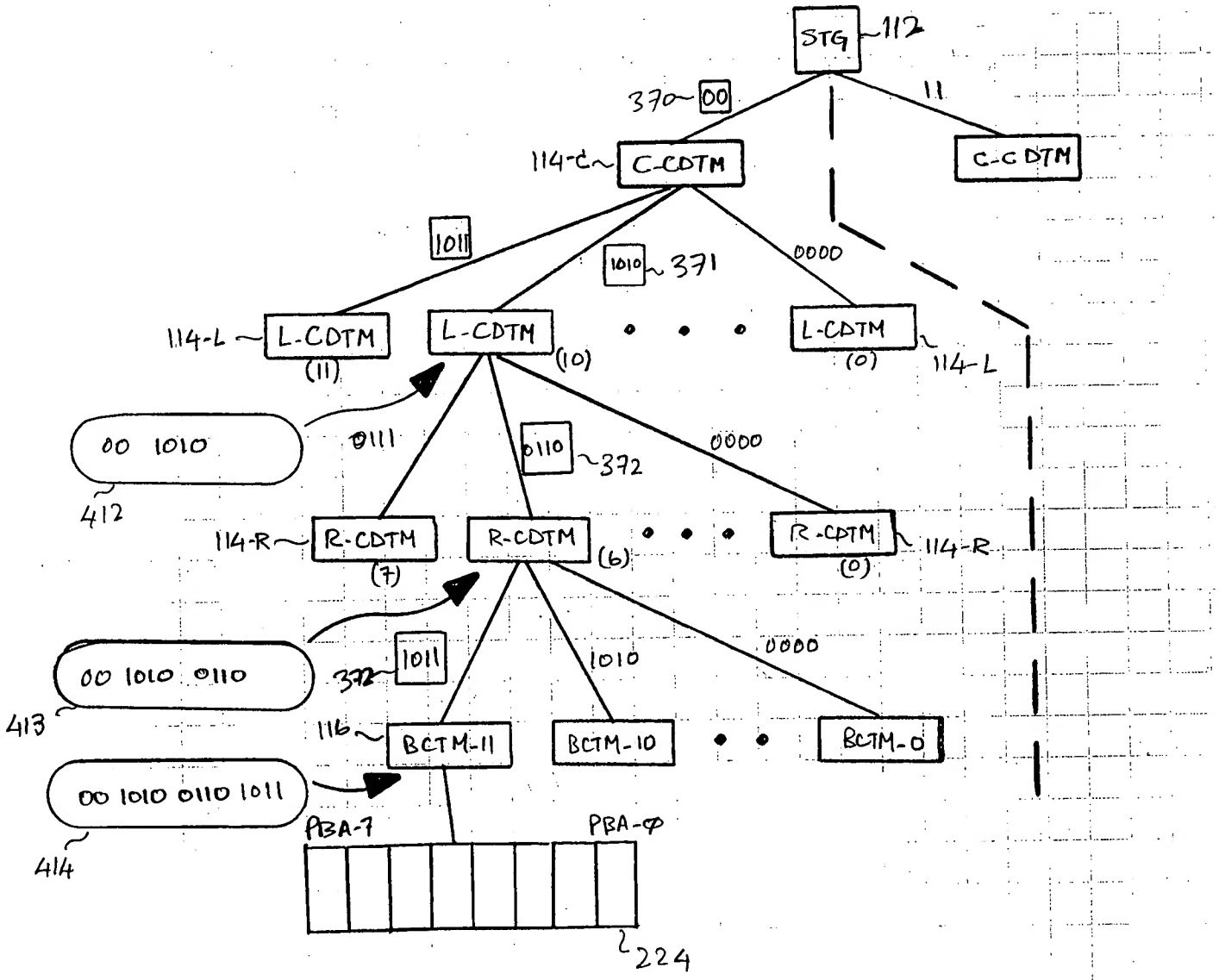

STG
112
370
00
11
114-C
C-CDTM
C-CDTM
1011
1010
371
0000
114-L
L-CDTM
(11)
L-CDTM
(10)
L-CDTM
(0)
114-L
00 1010
0111
412
0110
372
0000
114-R
R-CDTM
(7)
R-CDTM
(6)
R-CDTM
(0)
114-R
00 1010 0110
413
372
1011
1010
0000
116
BCTM-11
BCTM-10
BCTM-0
00 1010 0110 1011
414
PBA-7
PBA-0
224

FIG. 17A

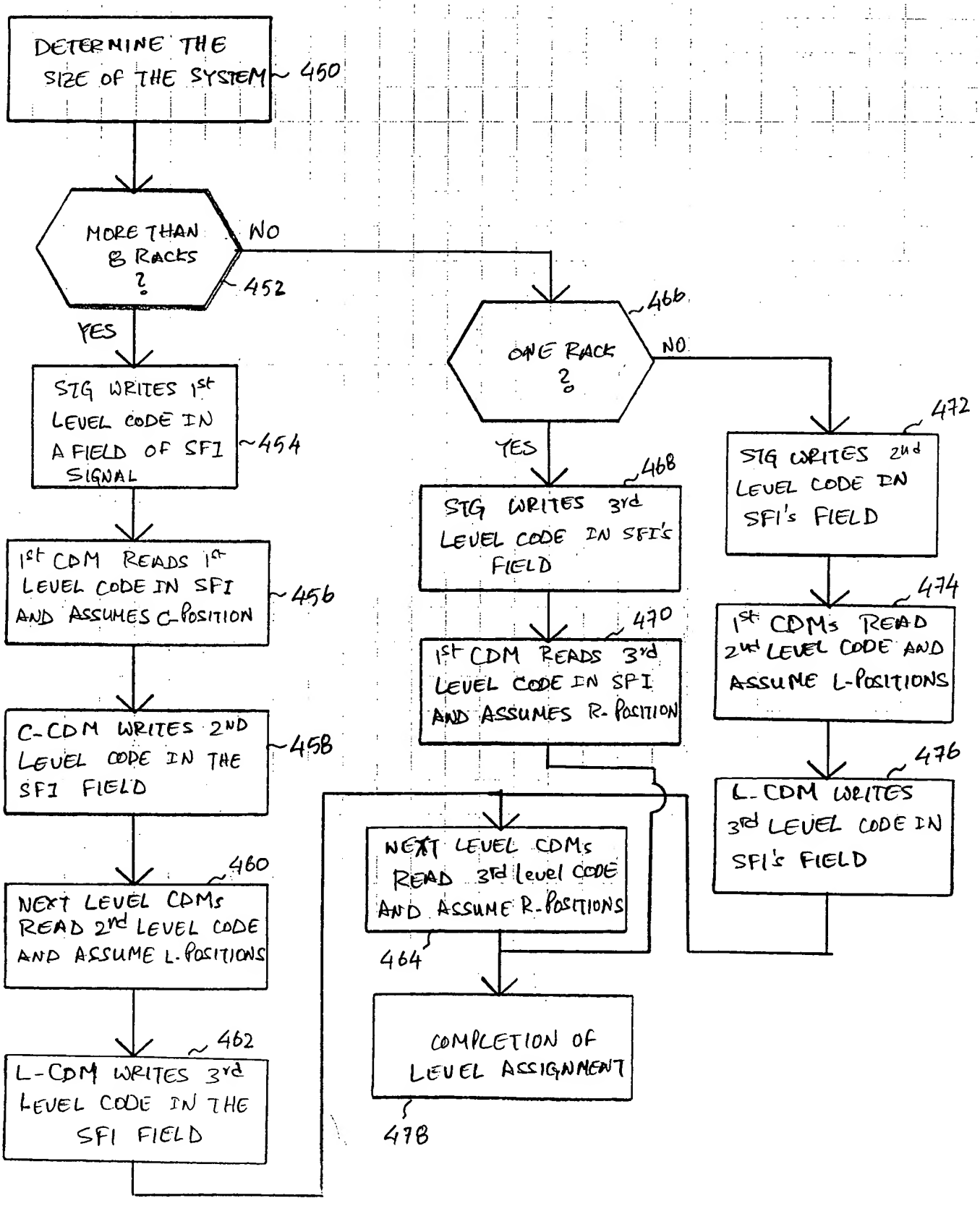

DETERMINE THE SIZE OF THE SYSTEM
450
MORE THAN 8 RACKS ?
452
NO
YES
STG WRITES 1st LEVEL CODE IN A FIELD OF SFI SIGNAL
454
1st CDM READS 1st LEVEL CODE IN SFI AND ASSUMES C-POSITION
456
C-CDM WRITES 2ND LEVEL CODE IN THE SFI FIELD
458
NEXT LEVEL CDMs READ 2nd LEVEL CODE AND ASSUME L-POSITIONS
460
L-CDM WRITES 3rd LEVEL CODE IN THE SFI FIELD
462
ONE RACK ?
466
NO
YES
STG WRITES 3rd LEVEL CODE IN SFI's FIELD
468
1st CDM READS 3rd LEVEL CODE IN SFI AND ASSUMES R-POSITION
470
NEXT LEVEL CDMs READ 3rd level CODE AND ASSUME R-POSITIONS
464
COMPLETION OF LEVEL ASSIGNMENT
478
STG WRITES 2nd LEVEL CODE IN SFI's FIELD
472
1st CDMs READ 2nd LEVEL CODE AND ASSUME L-POSITIONS
474
L-CDM WRITES 3rd LEVEL CODE IN SFI's FIELD
476

FIG. 17B

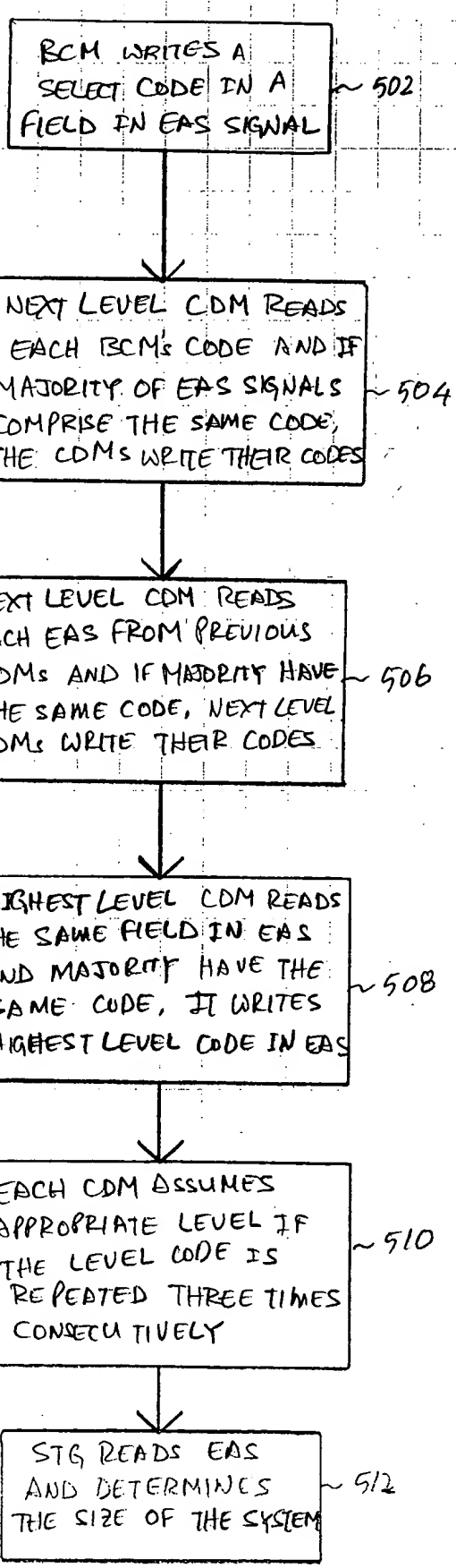

BCM WRITES A SELECT CODE IN A FIELD IN EAS SIGNAL
502
NEXT LEVEL CDM READS EACH BCM's CODE AND IF MAJORITY OF EAS SIGNALS COMPRISE THE SAME CODE, THE CDMs WRITE THEIR CODES
504
NEXT LEVEL CDM READS EACH EAS FROM PREVIOUS CDMs AND IF MAJORITY HAVE THE SAME CODE, NEXT LEVEL CDMs WRITE THEIR CODES
506
HIGHEST LEVEL CDM READS THE SAME FIELD IN EAS AND MAJORITY HAVE THE SAME CODE, IT WRITES HIGHEST LEVEL CODE IN EAS
508
EACH CDM ASSUMES APPROPRIATE LEVEL IF THE LEVEL CODE IS REPEATED THREE TIMES CONSECUTIVELY
510
STG READS EAS AND DETERMINES THE SIZE OF THE SYSTEM
512

FIG. 18

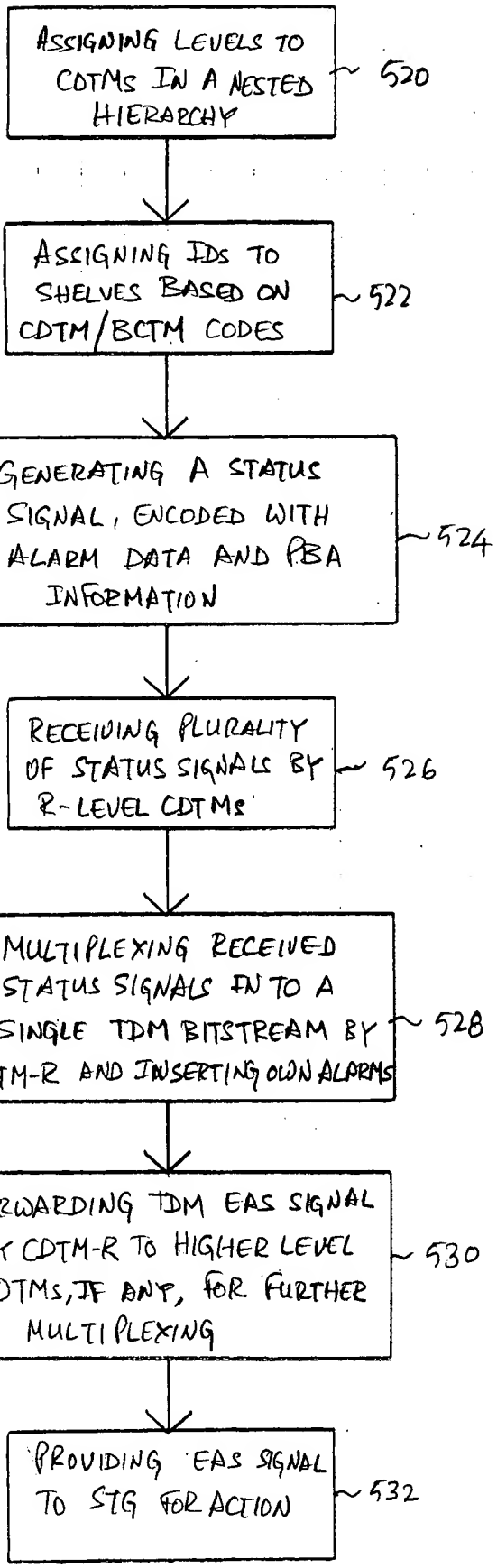

ASSIGNING LEVELS TO CDTMS IN A NESTED HIERARCHY
520
ASSIGNING IDS TO SHELVES BASED ON CDTM/BCTM CODES
522
GENERATING A STATUS SIGNAL, ENCODED WITH ALARM DATA AND PBA INFORMATION
524
RECEIVING PLURALITY OF STATUS SIGNALS BY R-LEVEL CDTMS
526
MULTIPLEXING RECEIVED STATUS SIGNALS IN TO A SINGLE TDM BITSTREAM BY CDTM-R AND INSERTING OWN ALARMS
528
FORWARDING TDM EAS SIGNAL BY CDTM-R TO HIGHER LEVEL CDTMS, IF ANY, FOR FURTHER MULTIPLEXING
530
PROVIDING EAS SIGNAL TO STG FOR ACTION
532

FIG. 19A

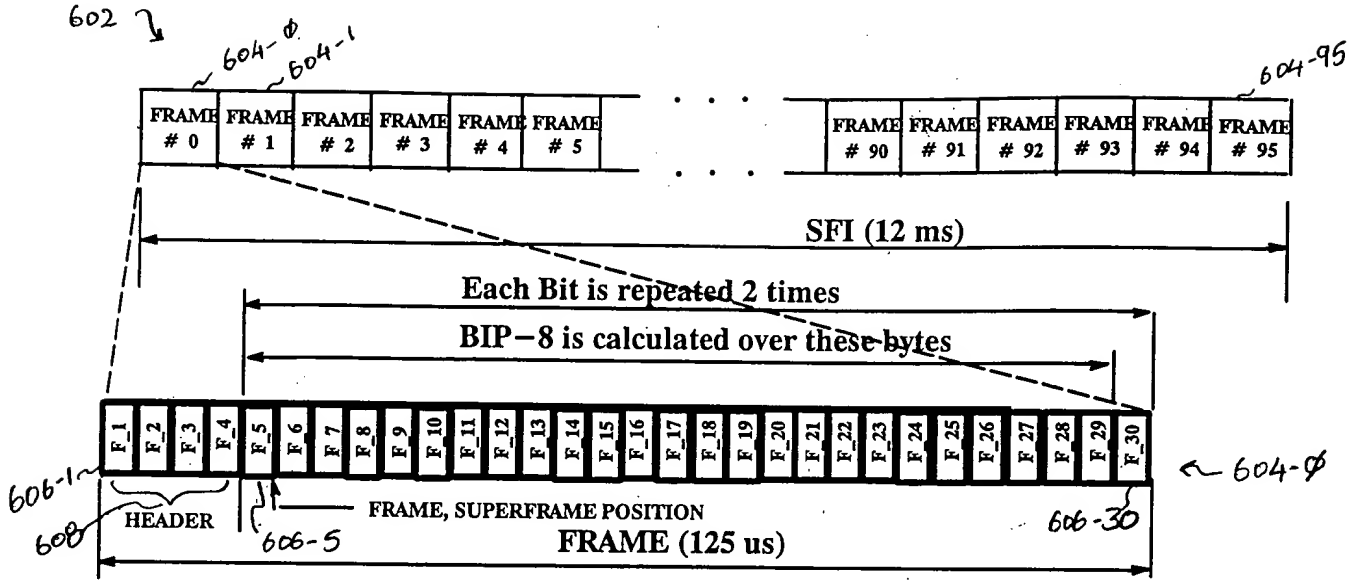
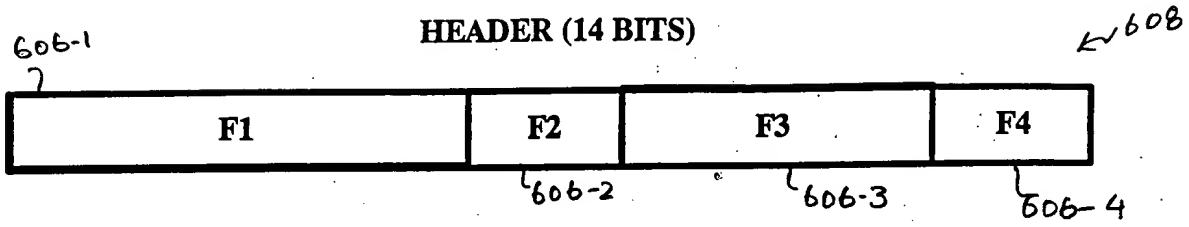

602
604-0
604-1
604-95
FRAME # 0
FRAME # 1
FRAME # 2
FRAME # 3
FRAME # 4
FRAME # 5
FRAME # 90
FRAME # 91
FRAME # 92
FRAME # 93
FRAME # 94
FRAME # 95
SFI (12 ms)
Each Bit is repeated 2 times
BIP−8 is calculated over these bytes
F_1
F_2
F_3
F_4
F_5
F_6
F_7
F_8
F_9
F_10
F_11
F_12
F_13
F_14
F_15
F_16
F_17
F_18
F_19
F_20
F_21
F_22
F_23
F_24
F_25
F_26
F_27
F_28
F_29
F_30
606-1
608
HEADER
606-5
FRAME, SUPERFRAME POSITION
FRAME (125 us)
606-30
604-0

FIG. 19B



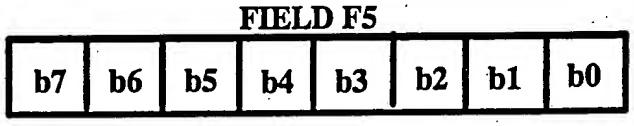

**F1: 6 BITS FOR SYNCHRONIZATION (010101)**

**F2: 2 BITS FOR TIME STAMP (11 EVERY 68th SFIs, 00 in the rest)**

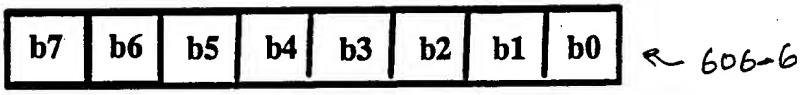
**F3: RESERVED**

**F4: 2 BITS FOR PLANE ID (00 FOR PLANE "A" AND 11 FOR PLANE "B")**

FIG. 19C




**b7 to b0 = Bits assigned for Frame Count (0 to 95)**




**b7 to b5 = Bits allocated for SFI Count ( 0 to 7)**

**b4 = Bit assigned for SFI "O.K." (1 for O.K.)**

**b3 = Bit assigned for Clock "O.K.(1 for O.K.)**

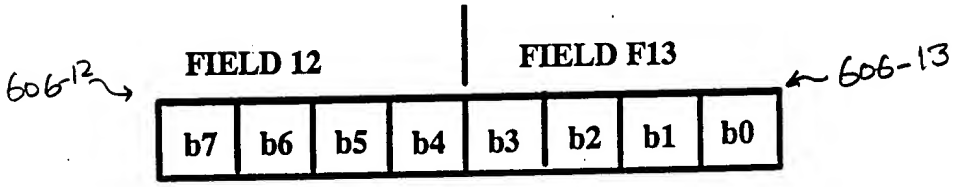
**b2 to b0 = Reserved**

FIG. 19D

**FIELD F7**

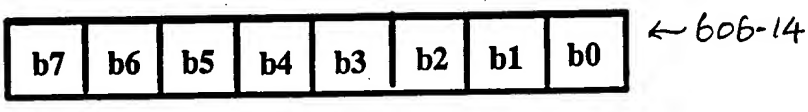
**FIELD F8**

FIG. 19F



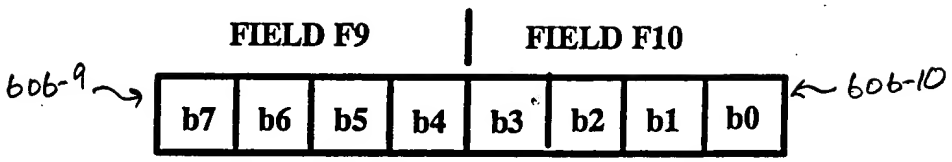

**b7 TO b4 : MSN FOR SHELF ID; IT IS INSERTED BY CDTM HIGHEST LEVEL**
**EACH PORT IS ASIGNED A VALUE FROM 0000 TO 1011**
**b3 TO b0 : SECOND NIBBLE OF THE SHELF ID INSERTED BY CDTM INTERMEDIATE**
**EACH PORT IS ASIGNED A VALUE FROM 0000 TO 0111**

**FIELD F14**




**b7 TO b4 : LSN FOR SHELF ID INSERTED BY CDTM LOWEST LEVEL**
**EACH PORT IS ASIGNED A VALUE FROM 0000 TO 1011**
**b3 TO b0 : RESERVED**

FIG. 19E

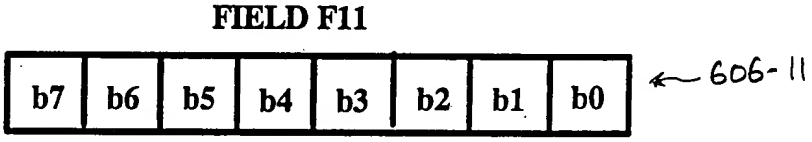



**b7 TO b4 : MSN FOR SHELF ID; IT IS INSERTED BY CDTM HIGHEST LEVEL**

**EACH PORT IS ASIGNED A VALUE FROM 0000 TO 1011**

**b3 TO b0 : SECOND NIBBLE OF THE SHELF ID INSERTED BY CDTM INTERMEDIATE**

**EACH PORT IS ASIGNED A VALUE FROM 0000 TO 0111**




**b7 TO b4 : LSN FOR SHELF ID INSERTED BY CDTM LOWEST LEVEL**

**EACH PORT IS ASIGNED A VALUE FROM 0000 TO 1011**

**b3 TO b0 : RESERVED**

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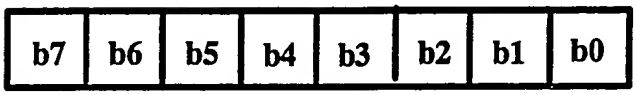
Fig. 19G

**FIELD #15 (F15)**




**b7: indicate that a clock is selected by the CDTM Highest Level**

**b7 = 0 (no clock selected)**

**b7 = 1 (one of 12 clocks selected)**

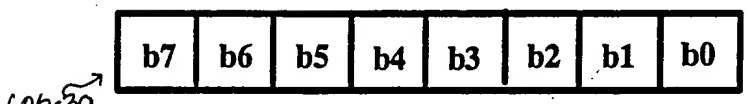
**b6 to b3: the code of the port selected (0000 to 1011)**

**b2 = Bit set to force the alarms**

**b1, b0 = Reserved**

Fig. 19M

**FIELD #30 (F30)**




**b7 to b0 :** Bits for **parity check (BIP−8)**

**BIP−8 IS AN "EVEN" PARITY CHECK**

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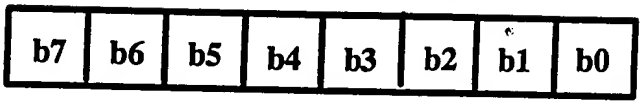
FIG. 19H

**FIELD #16 (F16)**




**b7: indicate that a clock is selected by the CDTM Middle Level**

**b7 = 0 (no clock selected)**

**b7 = 1 (one of 8 clocks selected)**

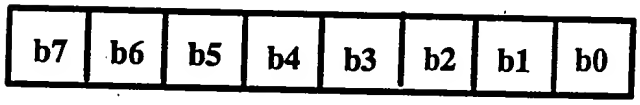
**b6 to b3: the code of the port selected (0000 to 0111)**

**b2 = Bit set to force the alarms**

**b1, b0 = Reserved**

FIG. 19I

**FIELD #17(F17)**




**b7: indicate that a clock is selected by the CDTM Lowest Level**

**b7 = 0 (no clock selected)**

**b7 = 1 (one of 12 clocks selected)**

**b6 to b3: the code of the port selected (0000 to 1011)**

**b2 = Bit set to force the alarms**

**b1, b0 = Reserved**

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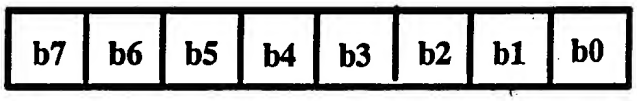
FIG. 19J

FIELD #F18 TO #F27 ~ 606-18 TO 606-27

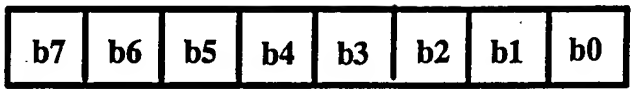
Byte #1




609-1

b7 = 1 RESET SLOT #0
b6 = 1 RESET SLOT #1
b5 = 1 RESET SLOT #2
b4 = 1 RESET SLOT #3
b3 = 1 RESET SLOT #4
b2 = 1 RESET SLOT #5
b1 = 1 RESET SLOT #6
b0 = 1 RESET SLOT #7

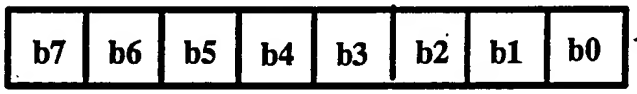
Byte #2




609-2

b7 = 1 RESET BCTM
b6 = 1 RESET ESWT#1
b5 = 1 RESET ESWT#2
b4 = 1 RESET RESERVED
b3 = Bit set to loop back 8 KHz
b2 = I1
b1 = I2
b0 = I3

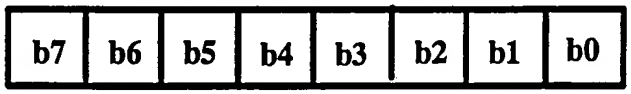
Byte #3




609-3

b7 = PWR DOWN SLOT #0
b6 = PWR DOWN SLOT #1
b5 = PWR DOWN SLOT #2
b4 = PWR DOWN SLOT #3
b3 = PWR DOWN SLOT #4
b2 = PWR DOWN SLOT #5
b1 = PWR DOWN SLOT #6
b0 = PWR DOWN SLOT #7

Byte #4

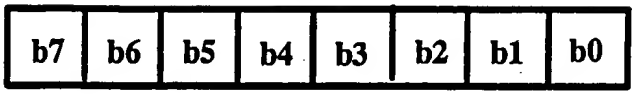



609-4

b7 = 1: Clock Selected by BCTM
b6 TO b4: the code of selected clock (000 to 111)
b3, b2 = Plane selection (A or B)
b1 = Turn ON/OFF rack alarm
b0 = 1: Force Shelf Alarms

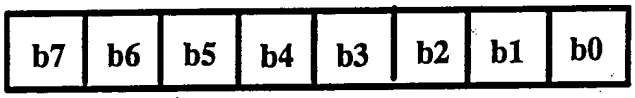
FIG. 19K

Byte #5




b7 to b4 = Bits allocated for SSM code
b3 = Bit set to inhibit errors reporting on plane from Plane A
b2 = Bit set to indicate errors reporting from Plane B
b1, b0 = Reserved

Byte #6

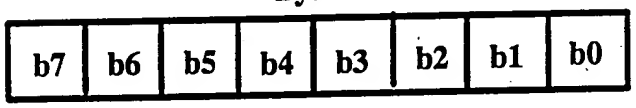



b7 to bo : Bits allocated to tristate all backplane signals per PBA.

FIG. 19L

FIELD F29

Byte #1




b7 = Reserved

b6 = Bit allocated for Heartbeat

b5 = Bit allocated for Critical Indicator

b4 = Bit allocated for Major Indicator

b3 = Bit allocated for Minor Indicator

b2 = Bit allocated for Critical Audible

b1 = Bit allocated for Major Audible

b0 = Bit allocated for Minor Audible

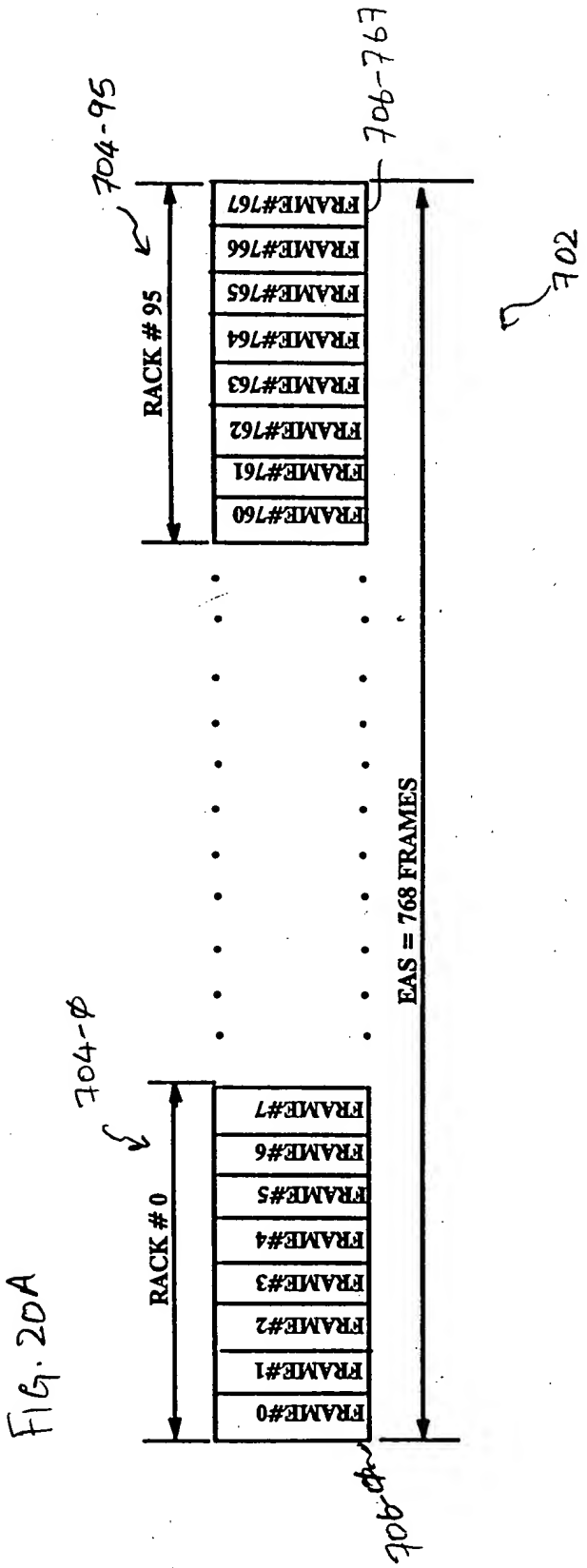
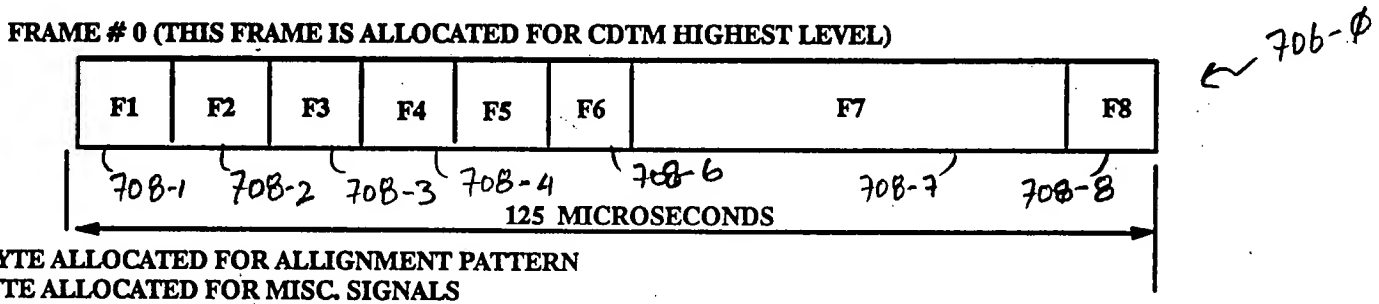

704-95
706-767
FRAME#767
FRAME#766
FRAME#765
FRAME#764
FRAME#763
FRAME#762
FRAME#761
FRAME#760
RACK # 95
702
EAS = 768 FRAMES
704-0
706-0
FRAME#7
FRAME#6
FRAME#5
FRAME#4
FRAME#3
FRAME#2
FRAME#1
FRAME#0
RACK # 0

FIG. 20A

DOTEED 80E0h50

FIG. 20B






706-0

F1 = 1 BYTE ALLOCATED FOR ALLIGNMENT PATTERN
F2 = I BYTE ALLOCATED FOR MISC. SIGNALS
F3 = 2 BYTES ALLOCATED FOR STATUS LOA
F4 = 2 BYTES ALLOCATED FOR INBOUND ERRORS (ONE BIT PER PORT)
F5 = 1 BYTE ALLOCATED FOR CLOCK SELECTION
F6 = 4 BITS ALLOCATED FOR BIP–4
F7 = 7.5 BYTES RESERVED
F8 = 1.5 BITS EMPTY FIELD (FORCED TO "0")

NOTE: ALL FRAMES # N X 64 (N = 1 TO 11) ARE EMPTY

FIG. 20C

**FRAME # 0**

FIELD F1

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

← 708-1

**b7 to b0 = "00111100" : Pattern generated by each CDTM and BCTM cards**

FIELD F2

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

← 708-2

**b7, b6 = Reserved**

**b5 = Bit set when outbound SFI errors are detected**

**NOTE:Outbound errors: "two bits violations" or BIP−8 only for Frame #0 of the SFI**

**b4 = Bit set when one of the STATUS signal is in LOS (except for the unused ports)**

**b3 = Bit set when the selected 8KHz is in LOC**

**b2, b1 = Bit assigned to indicate the Level of the CDTM (11 for L1, 10 for L2 and 01 for L3)**

**b0 = Bit assigned to indicate the Plane (0 for A and 1 for B)**

FIELD F3 (BTE #1)

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

← 708-3

**b7 to b0 = Bits assigned to indicate STATUS LOA ports #0 to 7**

FIELD F3 (BYTE #2)

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

← 708-3

**b3 to b0 = Bits assigned for STATUS LOA #8 to 12**

**b7 to b4 = Bits allocated for CDTM level assignment**

FIG. 20D

FIELD F4 (BYTE #1)

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

b7 to b0 Bits assigned to indicate STATUS LOS on ports # 0 to 7 ← 708-4

FIELD F4 (BYTE # 2)

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

b7 to b0 Bits assigned to indicate STATUS LOS on ports # 8 to 12

FIELD F5

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

← 708-5

b7= Bit set when an 8 KHz input was selected
b6, b5, b4, b3 = Bits assigned to indicate which 8 KHz port was selected
b2 = Bit set when a forced alarm bit was received

b1 = Bit asserted by CDTM Highest Level to indicate that a system alarm has occured in the previous EAS

b0 = Asserted by CSTG if a BIP−4 error was detected

FIELD F6

| b3 | b2 | b1 | b0 |
|---|---|---|---|

← 708-6

b3 to b0 = Bits assigned for BIP−4

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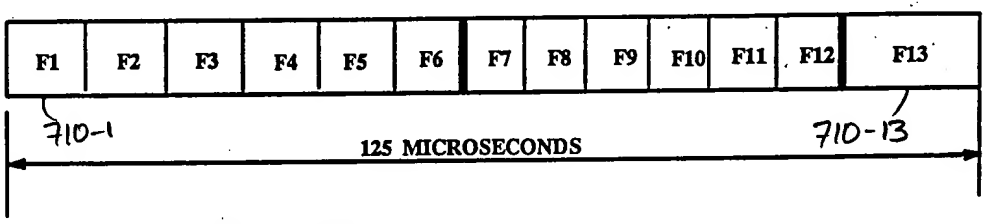
FIG. 20 E

FRAME # 1 + 64 X N (N = 0 TO 11) : THESE FRAMES ARE ALLOCATED FOR CDTM MIDDLE LEVEL

FRAME # 1+8 x N (N = 0 to 95) : THESE FRAMES ARE ALLOCATED FOR CDTM LOWEST LEVEL




CDTM MIDDLE LEVEL

F1 = 1 BYTE ALLOCATED FOR MISC. SIGNALS
F2 = I BYTE FOR CARD ID
F3 = 2 BYTES ALLOCATED FOR STATUS LOA
F4 = 2 BYTES ALLOCATED FOR INBOUND ERRORS (ONE BIT PER PORT)
F5 = 1 BYTE ALLOCATED FOR CLOCK SELECTION
F6 = 4 BITS ALLOCATED FOR BIP–4

CDTM LOWEST LEVEL

F7 = 1 BYTE ALLOCATED FOR MISC. SIGNALS
F8 = 1 BYTE FOR CARD ID
F9 = 2 BYTES ALLOCATED FOR STATUS LOA
F10 = 2 BYTES ALLOCATED FOR INBOUND ERRORS
F11 = 1 BYTE ALLOCATED FOR CLOCK SELECTION
F12 = 4 BITS ALLOCATED FOR BIP–4
F13 = 1.5 BITS EMPTY FIELD (FORCED TO "0")

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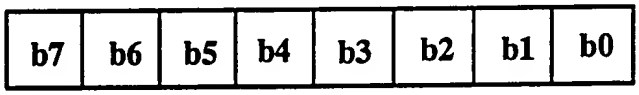
FIG. 20 F

FRAME # 1 + 64 x N (N= 0 to 11): THESE FRAMES ARE ALLOCATED FOR CDTM MIDDLE LEVEL

FIELD F1




b7 = Reserved
b6 = Reserved
b5 = Bit set when outbound SFI errors are detected
NOTE:Outbound errors: "two bits violations" or BIP–8 only for Frame #0 of the SFI
b4 = Bit set when one of the STATUS signal is in LOS (except for the unused ports)
b3 = Bit set when the selected 8KHz is in LOC
b2, b1 = Bit assigned to indicate the Level of the CDTM (11 for L1, 10 for L2 and 01 for L3)
b0 = Bit assigned to indicate the Plane (0 for A and 1 for B)

FIG. 20G

FIELD F2

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

← 710-2

**b7 to b4 = Bits assigned to indicate the CDTM ID**

**b3 to b0 = Reserved**

FIELD F3 (BYTE #1)

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

**b7 to b0 = Bits assigned to indicate STATUS LOA ports #0 to 7**

710-3

FIELD F3 (BYTE #2)

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

**b7 to b0 = Bits assigned to indicate STATUS LOA ports #8 to 12 (will be masked)**

FIG. 20H

FIELD F4 (BYTE #1)

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

**b7 to b0 Bits assigned to indicate STATUS LOS on ports # 0 to 7**

710-4

FIELD F4 (BYTE # 2)

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

**b7 to b0 Bits assigned to indicate STATUS LOS on ports # 8 to 12 (will be masked)**

FIG. 20I

FIELD F5

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

← 710-5

b7= Bit set when an 8 KHz input was selected
b6, b5, b4, b3 = Bits assigned to indicate which 8 KHz port was selected
b2 = Bit set if a "forced alarms" bit was received

b1 = Bit asserted by CDTM Middle Level to indicate that a group alarm has occurred in the previous ESFI
b0 = Bit asserted by CSTG to indicate that a BIP−4 error was detected

FIELD F6

| b3 | b2 | b1 | b0 |
|---|---|---|---|

← 710-6

b3 to b0 = Bits assigned for BIP−4 ("EVEN" PARITY)

FIG. 20J

FRAME # 1+8 x N (N = 0 to 95) : THESE FRAMES ARE ALLOCATED FOR CDTM LOWEST LEVEL

FIELD F7

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

← 710-7

b7 = Reserved
b6 = Reserved

b5 = Bit set when outbound SFI errors are detected
NOTE:Outbound errors: "two bits violations" or BIP−8 only for Frame #0 of the SFI
b4 = Bit set when one of the STATUS signal is in LOS (except for the unused ports).
b3 = Bit set when the selected 8KHz is in LOC
b2, b1 = Bit assigned to indicate the Level of the CDTM (11 for L1, 10 for L2 and 01 for L3)
b0 = Bit assigned to indicate the Plane (0 for A and 1 for B)

FIG. 20K

FIELD F8

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

← 710-8

b7 to b0 = Bits assigned for CDTM ID

FIELD F9 (BYTE #1)

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

710-9

b7 to b0 = Bits assigned to indicate STATUS LOA ports #0 to 7

FIELD F9 (BYTE #2)

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

b7 to b0 = Bits assigned to indicate STATUS LOA ports #8 to 15

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FIG. 20L

FIELD F10 (BYTE #1)

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

b7 to b0 Bits assigned to indicate STATUS LOS on ports # 0 to 7

710-10

FIELD F10 (BYTE #2)

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

b7 to b0 Bits assigned to indicate STATUS LOS on ports # 8 to 15

FIG. 20M

FIELD F11

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

← 710-11

**b7= Bit set when an 8 KHz input was selected**
**b6, b5, b4, b3 = Bits assigned to indicate which 8 KHz port was selected**
**b2 = Bit set if a "forced alarms" bit was received**

**b1 = Bit asserted By CDTM lowest Level to indicate that a rack alarm has occured in the previous EAS;**
**b0 = Bit asserted by CSTG to indicate that a BIP−4 error was detected**

FIELD F12

| b3 | b2 | b1 | b0 |
|---|---|---|---|

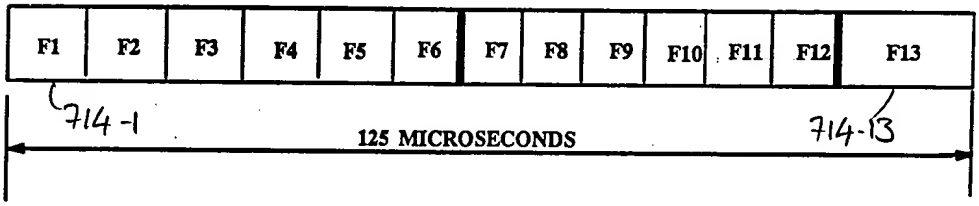
← 710-12

**b3 to b0 = Bits assigned for BIP−4 ("EVEN" PARITY)**

FIG. 20N

FRAMES # (2 to 7) + 8 x N (N = 0 to 95)

EACH OF THESE FRAMES ARE ALLOCATED FOR A PAIR OF BCTM CARDS (A&B)




**BCTM (A)**

**F1 = 2 BYTES ALLOCATED FOR ALARMS**
**F2 = 2 BYTES ALLOCATED FOR SHELF ID AND CLOCK SELECTION**
**F3 = 1 BYTE ALLOCATED FOR PBA "HEALTH"**
**F4 = 1 BYTE ALLOCATED FOR PBA "PRESENCE"**
**F5 = 1 BYTE ALLOCATED FOR MISC.**
**F6 = 4 BITS ALLOCATED FOR BIP−4**

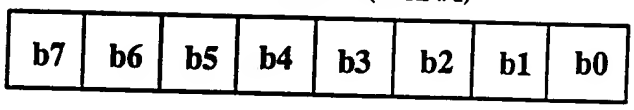
**BCTM (B)**

**F7 = 2 BYTES ALLOCATED FOR ALARMS**
**F8 = 2 BYTES ALLOCATED FOR SHELF ID AND CLOCK SELECTION**
**F9 = 1 BYTE ALLOCATED FOR PBA "HEALTH"**
**F10 = 1 BYTE ALLOCATED FOR PBA "PRESENCE"**
**F11 = 1 BYTE ALLOCATED FOR MISC.**
**F12 = 4 BITS ALLOCATED FOR BIP−4**

**F13 = 1.5 BITS EMPTY FIELD (FORCED TO "0")**

FIG. 20 0

BCTM (A)
FIELD F1 (BYTE #1)




714-1

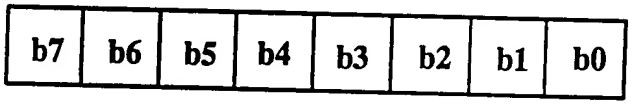
b7, b6 = Bits allocated for PSU #1 (A) alarm

b5, b4 = Bits allocated for PSU #2 (B) alarm

b3, b2 = Bits allocated for two Fan alarms

b1, b0 = Bits allocated for ESWT Pwr alarm

FIELD F1 (BYTE #2)




714-1

b7 = Bit allocated for Breaker Panel alarm

b6 = Bit allocated for Temp. control

b5 = Bit allocated to indicate Plane A Lost (LOC, LOS, SFI LOF)

b4 = Bit allocated to indicate Plane B Lost (LOC, LOS, SFI LOF)

b3 = Bit allocated to indicate "Two Bits Violation" or BIP−8 errors Plane A (only for the frame allocated for that particular rack)

b2 = Bit allocated to indicate "Two Bits Violation" or BIP−8 errors Plane B (only for the frame allocated for that particular rack)

b1 = One bit to indicate that a Forced Alarm bit was received

b0 = Reserved

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FIG. 20P

FIELD F2 (BYTE #1)

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

714-2

b7 to b0 = Higher 8 bits of the BCTM ID

FIELD F2 (BYTE #2)

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

b7 to b4 = Lower 4 bits of the BCTM ID

b3 = Bit set to indicate that an 8 KHz clock was selected

b2 to b0 = Bits allocated to indicate which clock was selected

FIELD F3

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

714-3

b7 to b0 = Bits allocated to indicate PBA"Health" from Slot #0 to Slot #7

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FIG. 20Q

FIELD F4

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

← 714-4

b7 to b0 = Bits allocated to indicate PBA "Presence" from Slo#0 to Slot# 7

FIELD F5

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

← 714-5

b7 = Bit set to indicate that a mismatch plane assignment was detected
b6, b5 = Bits allocated to indicate which plane was selected (A or B)
b4 = Bit set to indicate that a "System Slot Installed" bit was received
b3 = Bit set to indicate that SFI planes allignment errors are generated
b2 = Bit set to indicate that the selected 8 KHz is lost
b1 = Bit set to indicate an OR–ed function of all BCTM (A) alarms
b0 = Bit asserted by CSTG to indicate that a BIP–4 error was detected

FIELD F6

| b3 | b2 | b1 | b0 |
|---|---|---|---|

← 714-6

b3 to b0 = Bits allocated for BIP–4

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FIG. 20 R

BCTM (B)

FIELD F7 (BYTE #1)

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

714-7

b7, b6 = Bits allocated for PSU #1 (A) alarm

b5, b4 = Bits allocated for PSU #2 (B) alarm

b3, b2 = Bits allocated for two Fan alarms

b1, b0 = Bits allocated for ESWT Pwr alarm

FIELD F7 (BYTE #2)

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

714-7

b7 = Bit allocated for Breaker Panel alarm

b6 = Bit allocated for Temp. control

b5 = Bit allocated to indicate Plane A Lost (LOC, LOS, SFI LOF)

b4 = Bit allocated to indicate Plane B Lost (LOC, LOS, SFI LOF)

b3 = Bit allocated to indicate "Two Bits Violation" or BIP−8 errors Plane A (only for the frame allocated for that particular rack)

b2 = Bit allocated to indicate "Two Bits Violation" or BIP−8 errors Plane B (only for the frame allocated for that particular rack)

b1 = One bit to indicate that a Forced Alarm bit was received

b0 = Reserved

FIG. 20S

FIELD F8 (BYTE #1)

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

714-8

b7 to b0 = Higher 8 bits of the BCTM ID

FIELD F8 (BYTE #2)

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

b7 to b4 = Lower 4 bits of the BCTM ID

b3 = Bit set to indicate that an 8 KHz clock was selected

b2 to b0 = Bits allocated to indicate which clock was selected

FIG. 20T

FIELD F9

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

714-9

b7 to b0 = Bits allocated to indicate PBA"Health" from Slot #0 to Slot #7

FIELD F10

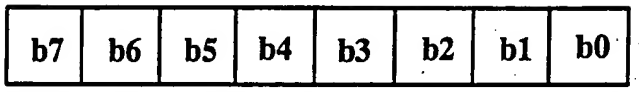
| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|

714-10

b7 to b0 = Bits allocated to indicate PBA "Presence" from Slot #0 to Slot #7

FIG. 20U

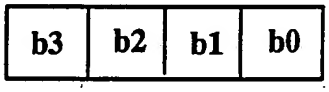
FIELD F11




714-11

b7 = Bit set to indicate that a plane assignment error was detected
b6, b5 = Bits allocated to indicate which plane was selected (A or B)
b4 = Bit set to indicate that a "System Slot Installed" bit was received
b3 = Bit set to indicate that SFI planes allignment errors are generated
b2 = Bit set to indicate that the selected 8 KHz is lost
b1= Bit set to indicate an OR−ed function of all BCTM (B) alarms
b0 = Bit asserted by CSTG to indicate that a BIP−4 error was detected

FIELD F12




714-12

b3 to b0 = Bits allocated for BIP−4